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THERAPEUTIC RADIOLOGY IN RELATION TO INFANCY AND CHILDHOOD*

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Before considering the pathologic conditions of childhood for which treatment with roentgen rays is recognized as valuable, it is essential to explain the peculiar sensitiveness to irradiation of the young, rapidly growing organism of the normal child. It has now been thoroughly established that every variety of cell in the body has a specific range of sensitiveness to roentgen rays and radium. Variation in the susceptibility of different kinds of cells appears to depend mainly on their natural life cycle, on their metabolic activity, and on the stage of mitosis in which the cells happen to be when exposed to the rays. Thus the lymphocytes, the metabolic cycle of which among human

cells is the shortest, are also the most radio-sensitive, and the nerve cells, the life cycle of which is the longest, are also the most resistant to irradiation. This principle applies not only to the human species but also to mammals in general and to many other forms of animal life. Moreover, the significance of the rate of cellular metabolism

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affects not only the sensitiveness of the cells themselves, but also that of the organism as a whole. Thus, the shorter the life period of a species of animal, the more radiosensitive it is likely to be. The degree or rapidity of radiation effect varies with the dose of rays, the age of the animal or human being, and the natural life cycle of the species. The cells and tissues of a given species rapidly become less sensitive as the individual emerges from the early phase of its existence, during which growth is such a prominent feature. Next in importance as a factor governing the radiosensitiveness of cells is their age or, in other words, the stage of metabolism in which they happen to be at the time of irradiation. Cells in process of mitotic division are more readily influenced by a given dose of rays than are cells in the resting stage. Also young, immature cells are more easily affected by exposure to the rays than are adult or mature cells. The notion that pathologic cells are more radiosensitive than normal cells of the same kind, often asserted as a dogma, is valid only to the extent that the rate of mitosis of cells is affected by the pathologic disturbance. The significance of this factor, therefore, is limited to tumors and to processes of which cellular hyperplasia is an important feature. Such influence is small as compared with the specific natural susceptibility of each variety of cell and with the age or metabolic status of the cells.

When, according to their radiosensitiveness, certain cells or groups of cells are exposed to a sufficient dose of roentgen rays or radium, the first perceptible effect is an alteration of or series of changes in the nuclear portion, or genetic mechanism, of the cells. These changes are characterized collectively by arrest of mitotic division and by partial or complete degeneration of the cells, and individually by disorganization and fragmentation of the nuclear chromatin, vacuolar degeneration of the protoplasm, rupture of the cell and scattering of the fragments of chromatin from the nucleus among the remaining intact cells. The chromatin debris is then gradually absorbed by phagocytes (phagocytic reticular cells or macrophages), while the liquid portion of the degenerated cells, together with the ferments and antibodies which they previously contained, are liberated, become mixed with

the tissue fluids and ultimately find their way into the blood.

The reaction of different varieties of cells is characterized by certain similarities and dissimilarities. On all cells a sufficient dose of rays first causes partial or complete degeneration and fragmentation of the nuclear chromatin, with arrest of mitosis, and vacuolar degeneration and liquefaction of the protoplasm. After smaller doses, however, the cellular effects may vary in degree from the slightest grade of degeneration and inhibition of mitosis to complete destruction; the variations in effect depending on the kind of cell, the age of the cell or the stage of metabolism of different cells of the same kind, and the precise dose of rays in relation to the susceptibility of a particular variety of cell. Other factors, such as the circulation supplying the cells, also may influence their susceptibility to a variable extent. To illustrate the dissimilarities in reaction between different kinds of cells, I need only describe briefly the peculiarities of reaction of a few varieties. For example, the lymphocytes in the spleen, lymph nodes, circulating blood, bone-marrow, and thymus gland, which among human cells are known to be the most sensitive to irradiation, and other leukocytes (polymorphonuclears and eosinophiles) which, though less sensitive than the lymphocytes, are more vulnerable than most other cells, either undergo temporary inhibition of metabolism or are totally destroyed even by a moderate dose of rays. Epithelial cells which have the property of secreting mucus undergo mucoid degeneration and secrete an increased quantity of mucus for a short time, but later the quantity of mucus secreted is abnormally small; in fact, the output of mucus may cease altogether for a time, but later some measure of cellular regeneration and functional restoration may occur. When subjected to a sufficient dose of rays, epithelial cells in the skin or lining the gastro-intestinal tract, the respiratory tract, the tubules of the kidney or the tubular glands generally, desquamate into the lumen of the respective organ or structure and later are replaced by regenerative hyperplasia of adjacent intact cells; or, if the proportion of destroyed cells is too great for hyperplastic regeneration, the breach is repaired by proliferation of connective tissue. When blood vessels are exposed to sufficiently strong

irradiation, some of the endothelial cells swell and desquamate into the lumen of the vessel and are carried away by the blood. As a result of such endothelial desquamation or as another step in the reaction of the irradiated vessel wall, the cells of the media also swell, and this layer of cells may thicken greatly. Later, the desquamated endothelium is replaced by newly formed cells, but the inflammatory reaction of the media may lead to proliferation of connective tissue cells, which causes the walls of the vessel to become thicker and thicker, and sometimes the lumen is thus completely obliterated. The spermatogonial epithelium of the testis and the follicular epithelium of the ovary also are peculiarly sensitive to irradiation. Within a few days after exposure, these cells begin to degenerate and to desquamate into the lumen of the tubules. This leads to failure of the cells to mature and the result may be complete azoospermia or amenorrhea. In the testis the cells of Sertoli are not affected for a time, but later they proliferate and apparently play a part in regeneration of the spermatogonial epithelium. These are but a few examples of similarity and dissimilarity in cellular reaction.

In no way can the cellular degeneration induced by exposure to roentgen rays or radium be regarded as specific in the sense that such degeneration assumes a form peculiar to these radioactive substances. Each variety of cell degenerates in a certain way regardless of the chemical substance or of the kind of physical energy to which they may have been exposed. While this is true of individual cells, it does not mean that the action of radiation on tissues is precisely the same as the action of sulphuric acid, for instance. Just as an experienced pathologist can distinguish the effect of strong acids on the mucosa of the esophagus and stomach from the effect of other chemical substances, so can the experienced radiologist and pathologist usually identify tissue changes caused by irradiation. The points of identity by which such changes can be recognized do not concern the reaction of individual cells so much as they do that of different kinds of tissue in relation to the quality and quantity of radiation and the exact method of irradiation.

As one would expect, therefore, the radiosensitiveness of different tissues varies

according to the susceptibility of the cells of which they are chiefly composed. Thus, organs or structures made up mainly of lymphoid cells are extremely sensitive and are affected to a considerable degree, even by small doses of roentgen rays or radium. Next in order of susceptibility come the salivary glands, the testis and ovary, the basal epithelium of mucous membranes and skin, the epithelium of the respiratory tract, the endothelium of the blood vessels, pleura and peritoneum, connective tissue, muscle, bone, and finally adipose and nerve tissue.

As already mentioned, age plays an important part in the vulnerability of cells and tissues. During fetal life as well as during the early part of postnatal life, the growth of a part or of the body as a whole may be easily retarded or stopped altogether by exposure to roentgen rays or radium. During pregnancy, irradiation of the part of the abdomen corresponding to the gravid uterus may cause the fetus to die and to be expelled or may merely retard its growth as a whole or in part, depending on whether the entire fetus or only certain parts are exposed to a large, moderate, or small dose of rays. If, for instance, the head of the fetus is exposed to a sufficient dose, the growth of the cranial bones and, secondarily, that of the brain itself may be retarded more or less. This applies only to therapeutic doses of the order of those commonly employed in treating tumors. Some retardation of growth may follow smaller doses, but in such cases the influence on growth may be so slight as to be imperceptible. The relatively small doses of rays used in connection with diagnostic roentgenology should not have any appreciable effect unless roentgenography or roentgenoscopy is repeated too many times within a short period. After birth, the influence on growth is greatest during the first few years, after which such influence diminishes rapidly, until the sensitiveness of the specific cells of the various tissues and organs becomes as stabilized as that of corresponding mature cells. Thus, in a child one year old, the growth of bones and muscles can be slightly or greatly retarded by a dose of rays that would have no effect on the fully developed structures of an adult. But since even the mature bones and muscles of an adult human being can be devitalized by sufficiently intense irradiation, it becomes evident that, in subjecting a child to

roentgen rays or radium for any benign or malignant condition, the dose of rays must be adjusted with relation to the age of the patient. Until the body has attained its full development, the possibility of interfering with growth must be borne in mind, especially in connection with certain pathologic processes which, although amenable to radiotherapy, may require intense irradiation over a considerable area. Of course, when the problem involves the life of the patient or when treatment with roentgen rays or radium is likely to yield results that cannot be obtained by any other method, possible interference with growth may be disregarded to some extent. In daily practice, fortunately, the problem seldom assumes major proportions, and the possible danger can generally be obviated by suitable adjustment of dosage. Before birth and during the first year of life, the crystalline lens of the eye is extremely sensitive to irradiation, and degeneration of the lenticular epithelium and fibers (cataract) may be induced by direct exposure to a dose of rays which, ten or even five years later, would not have any deleterious effect whatever. The mature lens of the adult eye can tolerate irradiation insufficient to cause inflammatory reaction of the conjunctiva, but a dose large enough to induce conjunctivitis may, from several months to several years later, lead to cataract. In children this dangerous possibility bears an inverse relation to age; the younger the child, the greater the danger from a given dose. The skin of adults varies in susceptibility according to the complexion of the individual (quantity of pigment) and according to the thickness of the skin of different parts of the body. In children these factors apply with even greater force. This is probably due to greater circulatory or general metabolic activity. In any event, in irradiating the skin of a child aged ten years the quantitative dose permissible for an adult (same region) should be reduced approximately 10 per cent, and for a child five years old, approximately 15 per cent. An even greater reduction should be made when the same territory must be exposed to the rays repeatedly. Otherwise, cutaneous atrophy, late telangiectasis, or radiodermatitis may ensue.

SKIN DISEASES

Eczema, dermatitis and ringworm. Many

of the diseases which affect the mature body of adult human beings are also encountered during infancy and childhood, but the child may be more prone to certain conditions than the adult or, during childhood, certain pathologic disturbances may exhibit peculiarities which are less common in mature life. For example, certain forms of eczema and other skin diseases are more common among children than among adults. As in the adult, eczema of children is amenable to radiotherapy, but since, in the former, experience and minute attention to details are indispensable for best results, these essentials are even more important in dealing with similar conditions among children. Many forms of dermatitis also can be most effectively treated in this way. Roentgen rays should not be employed during the acute stage, when the cutaneous manifestations should preferably be dealt with by means of topical applications. This is especially true during infancy, when the child may be quite restless from itching and interference with sleep. For infants or young children who are restless or difficult to control, topical applications often may have to be relied on exclusively. Satisfactory irradiation may be impossible or actually dangerous. After the acute stage has subsided, roentgen-ray treatment may be used to advantage. Small doses, repeated at short intervals, are preferable to large doses at longer intervals, and the total dose given during any period of three weeks should always be less than the quantity of rays required to induce erythema of the skin. One method commonly employed is to divide the so-called erythema dose into five parts and to give one-fifth of this dose once a week. A point that needs emphasis is that exposure to roentgen rays must not be repeated too many times. If exposure to one-fifth of an erythema dose weekly for from twelve to sixteen weeks has not yielded substantial improvement or has not effected a cure, irradiation should be discontinued permanently or for a long time. Ringworm of the scalp responds well to roentgen irradiation; in this condition also, providing experience guides the treatment and the dose is adjusted so as to induce temporary but not permanent alopecia, excellent results may be obtained. In fact, roentgen-ray treatment has become the most effective means of curing the disease. Success requires not only

careful adjustment of the dose to induce certain but only temporary depilation, but the quantity of rays reaching every part of the scalp must be regulated so as to have a uniform effect.

Angioma. In certain kinds of angioma of the skin treatment with roentgen rays or radium may have a strikingly favorable action. Whereas in that variety of angioma commonly designated as port-wine mark radiotherapy may be said to be quite ineffective, in other varieties such as the strawberry and cavernous forms of angioma, on the contrary, marked benefit or improvement may attend judicious exposure to the rays. Usually radium (beta rays) is most effective in the former condition, and many such lesions can be completely cured. The younger the child, the greater the care required. A moderate dose of radium, essentially unfiltered or filtered through 0.1 mm. of aluminum, in the form of a plaque (5 milligrams), should be applied over different parts of the lesion at relatively long intervals. The younger the child, the smaller should be the quantity of radiation; still, the dose must be sufficient to have a definite effect. When the lesion is small, one or two applications may be sufficient to eradicate it completely, but when large, the treatment may have to be repeated several times at intervals of from one to three months. The aim should be to cause the lesion to disappear without undesirable changes in the skin. In the cavernous type of angioma also, radium or roentgen-ray treatment may yield astonishingly good results. When the lesion is superficial, radium in the form of a plaque, filtered through 0.1 mm. of aluminum, is preferable to roentgen rays, but when the lesion is thick and extends beneath the skin or mucous membrane, roentgen irradiation is most advantageous. When roentgen rays are employed, they should be of a medium range of wave-length and should be filtered through 3 or 4 mm. of aluminum. In either case, the dose should be slightly less than that required to cause inflammatory reaction of the skin.

Both radium and roentgen rays act on some of the leukocytes circulating within the aberrant vessels, causing them to disintegrate, and on the young, actively proliferating endothelial cells of the newly formed vessels, causing these cells to degenerate and desquamate. The platelets

also are affected, and they and the degenerating leukocytes and endothelial cells tend to form clumps which apparently serve as a nucleus for thrombosis. At any rate thrombosis occurs. As a result of endothelial degeneration, blood or serum may seep through the injured walls of the vessels, the media of which also undergoes inflammatory thickening. As the immediate reaction subsides, these changes are followed by proliferation of fibroblasts and gradual diminution of caliber, and finally by complete obliteration, of the vessels.

Warts. The common variety of wart is distinctly amenable to irradiation, either with roentgen rays or radium. A large proportion of such lesions can be successfully and completely eradicated in this way. When the wart is relatively small and not too thick, perhaps the best method is to surround it with heavy lead foil by causing it to protrude entirely through a hole in the foil which, alone or in conjunction with sheets of lead rubber, serves to shield the surrounding normal skin. One or more erythema doses at one sitting may be sufficient, and the wart may disappear in from three to eight weeks. If, within four weeks, the lesion diminishes in size but does not disappear, it is sound practice to repeat the same dose, but further irradiation should be withheld for at least eight weeks. If three exposures to full doses have not been sufficient to induce complete regression, radiotherapy should be given up in favor of some other method. When the lesions are multiple, several may be included in the same field of irradiation, provided they are not too widely scattered and are situated on a relatively flat surface; otherwise, each wart should be treated separately. Sometimes a large number of small warts in the skin of the neck, thorax or other region may be included in a single field. In this case, a suberythema dose should be used; otherwise, much unnecessary discomfort and, possibly, late telangiectasis and other undesirable effects may ensue.

Keloid. The proportion of young, actively proliferating connective tissue cells undoubtedly explains the effectiveness of roentgen rays or radium against lesions of this kind. When the lesions are small a moderate dose of radium, and when they are extensive a corresponding dose of roentgen rays, should be repeated at intervals of three weeks until

the keloid formation has completely receded or until maximal recession has been obtained. The results depend on the duration of the process in relation to treatment and the thoroughness of the treatment itself. In some cases, especially when the condition has existed for more than one year and the effect of irradiation, therefore, is likely to be slow and incomplete, surgical excision, followed by two or three exposures to roentgen rays at suitable intervals, may save considerable time.

INFLAMMATORY CONDITIONS

Furuncle and abscess. In children as in adults, localized pyogenic infection of the skin or subcutaneous tissues often responds quite well to irradiation. If exposed early, during the infiltrative stage, many acute lesions never suppurate but undergo rapid resolution. Notable features are that pain often abates within a few hours and that a single exposure is usually sufficient. Irradiation during the suppurative stage hastens suppuration and, therefore, may tend to increase pain for a short time. The pain then diminishes as in lesions irradiated during the infiltrative stage. In some cases the influence of the treatment may be only partial; in this event an additional exposure, six days after the first, is indicated. Subacute lesions also are amenable to irradiation, but the treatment may have to be repeated two or three times at intervals of from six to twelve days. Many forms of chronic infection react favorably to roentgen rays or radium, but usually the lesions must be irradiated at intervals for some time. For the acute lesions a dose varying between 20 per cent and 50 per cent of the skin erythema dose, according to the thickness of the inflamed tissues, seems to yield the best results. It is generally best to expose, not only the visible part of the lesion but a wide margin of apparently normal surrounding tissue. The choice between roentgen rays and radium, when both agents are available, depends chiefly on the age of the child. Radium is preferable for infants and restless children, especially when the infection is accompanied by fever. Otherwise, roentgen rays are advisable, because the necessary exposure is shorter, a uniform dose can be delivered to a larger territory, and the cost is smaller. Roentgen rays of medium wave-

length, filtered through 4 mm. or 6 mm. of aluminum, are sufficient for the purpose.

Erysipelas. As in adults, erysipelas in children aged between ten and twenty years often reacts favorably to roentgen rays, but for some reason which is still obscure, when the disease attacks children aged less than ten years irradiation is not so effective. Treatment is most likely to be effective when it is started early in the course of the disease. Not only should the visible lesions be irradiated, but also a wide zone of apparently normal tissue surrounding them.

Tonsillitis and hyperplasia of the tonsil. Hyperplastic enlargement of the tonsil and of other aggregations of lymphoid tissue around the pharynx and nasopharynx, with or without simple or purulent inflammation, is extremely common during childhood. When lymphoid hyperplasia is not accompanied by evidence of purulent inflammation, exposure of the tonsil and pharynx to a moderate dose of roentgen rays two or three times at intervals of three weeks may be counted on to inhibit the tendency to hyperplasia and to cause the enlarged lymphoid structures to diminish in size. The rapidity of recession depends on the relative proportion of hyperplasia of the round cells (lymphocytes) and proliferation of the connective tissue cells. When, as is usually the case, the former element predominates, the reduction in size of the lymphoid structures is quite rapid, but when active proliferation of connective tissue cells is in progress, the lymphoid regression is slower and not so marked. Also, when acute purulent infection has developed, exposure to a small dose of roentgen rays (20 per cent to 30 per cent of an erythema dose of rays of medium wave-length) during the first forty-eight hours (stage of leukocytic infiltration) may, in about 70 per cent of cases, have a marked resolving action or may actually abort the inflammatory process. Irradiation at a later stage may hasten suppuration, may make incision imperative sooner than would otherwise be necessary, and may shorten the period of disability. Even when successful, however, radiotherapy does not insure the patient against subsequent attacks. When a child has suffered repeatedly from tonsillitis, surgical removal of the tonsils should be the therapeutic method of choice. In connection with irradiation of the tonsil and pharynx, one point should be borne in mind. The

beam of rays directed through the lower part of the face and upper part of the neck from each side must pass through the parotid gland. Owing to the radiosensitivity of the mucus-secreting epithelial cells of the salivary glands, exposure to roentgen rays or radium is likely to be followed by swelling in this region. The patient and the attending physician may think that mumps is developing and may be worried by this apparent complication. But they need not be concerned; the swelling is only transient, subsides spontaneously within from twelve to seventy-two hours, and may be wholly or largely controlled by the application of an ice bag.

Lymphadenitis, simple. What has been written concerning furuncle and abscess applies equally to simple inflammation of lymph nodes, but since, in such cases, the adenitis is usually secondary to an adjacent or distant lesion, this also must be dealt with by irradiation or by such other methods as may be indicated.

The remarkable resolving action of small doses of rays on many acute inflammatory processes appears to be related to the degree of leukocytic infiltration. The rate at which such lesions subside after irradiation corresponds so closely to the known radiosensitivity of normal lymphocytes and polymorphonuclear corpuscles that it can hardly be regarded as a coincidence. What probably takes place is that the rays destroy a certain proportion of the infiltrating cells and that the antibodies and ferments elaborated by these cells are liberated and thus can act more effectively against the bacteria than when they were in the intact cells. At least, some such process appears to be the main effect of exposure to the rays. Needless to say, when inflammatory exudates have become partly or completely organized, the influence of irradiation is correspondingly diminished.

Lymphadenitis, tuberculous. Without sacrifice of conservatism, it may be said that radiotherapy is the method of choice for this condition. By this I do not pretend that always and in all cases, regardless of circumstances, roentgen rays or radium should be employed to the exclusion of other therapeutic measures. Inasmuch as tuberculous invasion of lymph nodes, whether in the neck, mediastinum or other regions, not infrequently complicates pulmonary tubercu-

losis, the primary focus, when such exists, must receive adequate therapeutic consideration. In most cases, however, this does not prevent simultaneous treatment of secondarily infected nodes. Surgical incision and drainage may sometimes be advisable, but this measure should be adopted for definite reasons or as a last resort. Fortunately, it is not necessary in most cases. Excision of tuberculous nodes should never be done until other methods of treatment have had a thorough trial, without success.

In a large proportion of cases, suberythema doses (70 per cent to 90 per cent of the skin erythema dose) of roentgen rays of medium wave length, filtered through 4 mm. of aluminum when the neck, axilla or groin are concerned, and through 6 mm. of aluminum when treatment is directed against tuberculous nodes in the mediastinum, should be repeated at intervals of four weeks until the inflammatory process has subsided and the nodes either have disappeared or have retrogressed to the maximal degree. The treatment may have to be continued for from three to twelve months, or even longer. Periodic roentgen irradiation of the affected region may usefully be supplemented by daily exposure of the entire body to gradually increasing doses of ultra-violet rays. If some of the nodes have undergone caseation or suppuration and rupture threatens, irradiation should be preceded by withdrawal of the caseous or purulent material by means of a needle with a large bore, which should be inserted not through the thin skin overlying the fluctuant area, but to one side through more nearly normal tissue. In this way the danger of causing the formation of a sinus is obviated.

The reason that, in tuberculous adenitis as in many other varieties of chronic inflammation, irradiation must be repeated many times appears to be related to the fact that the lesions are made up partly of infiltrating leukocytes (especially lymphocytes), caseous, purulent, or other material derived from degenerated cells, fibrous connective tissue, and sometimes of calcium in varying proportions. Calcium is not influenced by irradiation; neither is caseous nor purulent material. Connective tissue is relatively resistant to the rays and is not affected appreciably by ordinary therapeutic doses. But lymphocytes are the most radiosensitive of all cells. Hence, the degree of lymphocytic

infiltration, on the one hand, and the proportion of connective tissue and of degenerative products, on the other hand, would seem to be the main factors influencing irradiation in opposite directions. This probably accounts for the more rapid regression of tuberculous nodes during the infiltrative phase. It has often been observed that when fresh tuberculous adenitis supervenes after surgical excision of previously infected nodes, radiotherapy is not so effective or may have to be continued for a longer time. This is generally attributable to increased proliferation of connective tissue and to disturbance of anatomic relations.

Hyperplasia of the thymus gland. For many years obstructive dyspnea and respiratory stridor of infants and young children have been associated, in the mind of physicians, with hyperplastic enlargement of the thymus gland, and many unaccountably sudden deaths have been related to a so-called thymico-lymphatic state, of which an abnormally large thymus gland has been regarded as an essential accompaniment. The respiratory difficulty has generally been attributed to mechanical pressure of the enlarged gland on the trachea, in spite of the fact that, at necropsy, evidence of such pressure has seldom been obtained. More recently, many specialists in diseases of children have found that the respiratory and other symptoms appear to be related to nutritional or toxic factors, and that correction or elimination of such factors has been followed by improvement or cure. Experiences of this kind have now become so common that some physicians boldly assert that the thymus gland has nothing to do with the symptoms. Even if the respiratory difficulty is directly related to the increased size of the gland, it does not necessarily follow that the dyspnea and stridor must be due to pressure on the trachea. Otherwise, signs of pressure at necropsy should be found more frequently. The common absence of such signs is noteworthy and leads one to think that, if the symptoms are ever caused by mechanical pressure, the pressure is more likely to be exerted on the great vessels above the heart. It is hard to conceive how a relatively soft structure such as the thymus gland, even when it has undergone marked hyperplasia, could possibly exert on the comparatively resistant trachea a degree of pressure sufficient seriously to interfere with respiration.

If pressure there must be, it would seem more logical to assume that this affects the great vessels, especially the superior vena cava and possibly, in some cases, the pulmonary vessels. If a doubtful action on the pulmonary vessels is eliminated from consideration, respiratory embarrassment would then be indirect and would probably result from accumulation in the blood of toxic products of metabolism. It is also possible, of course, that thymic hyperplasia may be an effect of nutritional or toxic phenomena, at least at the beginning and perhaps throughout the course of the disturbance.

Whatever may be the essential etiologic factor, reduction in size of the thymus gland by irradiation of the mediastinal region is often followed by improvement in or disappearance of the symptoms. So rapid is the reduction in size of a hyperplastic thymus gland after exposure to a moderate dose of roentgen rays or radium that, by itself, such recession constitutes a valuable diagnostic sign that can be relied on to distinguish thymic hyperplasia from any other variety of mediastinal tumefaction, except Hodgkin's disease and lymphatic leukemia. But the reduction in size of the gland and improvement in the condition of the patient, noted in many cases after irradiation, do not necessarily prove that the symptoms were a direct result of thymic hyperplasia. The hyperplastic process in the thymus gland and lymphoid structures, as well as the clinical manifestations, may be secondary to some obscure cause or causes. Therefore, irradiation of the thymus gland, even when the organ appears abnormally large, should not be undertaken indiscriminately, and any effect produced by exposure to the rays cannot be held out as proof of a direct relation between the symptoms and the increased size of the gland. In many cases equivalent results may be obtained without recourse to roentgen rays or radium. The fact that, so frequently, improvement or cure can be obtained without irradiating the patient also suggests the possibility that the favorable influence of the rays, when they are used, may occur, not by release of the respiratory passages or great vessels from mechanical pressure, but through an autogenous protein effect or through increase of circulating antibodies resulting from destruction of lymphoid cells in the thymus gland itself as well as in the mediastinal lymph nodes and by the

influx into the circulation of the liberated products of cellular autolysis.

The exceptional radiosensitiveness of the thymus gland is due to the susceptibility to irradiation of the small round cells which so largely fill the thymic lobules. The vulnerability of these cells corresponds closely to that of lymphocytes, whether in the spleen, lymph nodes, intestinal lymph follicles, circulating blood, bone marrow, or any other aggregation of lymphoid cells, and this point strongly substantiates the view of certain histologists who, like Hammer, regard the small round cells of the thymus gland as lymphocytes.

The region of the thorax (anterior aspect) corresponding to the thymus may be irradiated with roentgen rays or with radium, the choice depending on the severity of the symptoms, the possible danger of moving the child, the size of the gland as determined by roentgenoscopy and roentgenography, and the availability of each agent. When the symptoms are severe, it is unwise to attempt to move the child for exposure to roentgen rays, either from the home to the hospital or even from one part of the hospital to another; the less the child is disturbed the better. Under such circumstances, radium is preferable, because it can be applied to the child in bed with minimal disturbance. The fact that thymic hyperplasia is so frequently associated with general hyperplasia of the lymphoid structures (the so-called thymicolymphatic state) and that sudden death is a relatively common occurrence must always be borne in mind. The patient should always be given the benefit of the doubt, when doubt exists. When the symptoms are not so severe and extreme care is not so imperative, roentgen rays are preferable, even when the gland has assumed considerable dimensions. Also, when radium is not available, roentgen rays are an invaluable substitute. Regardless of the agent employed, however, the dose should never be large. With the tolerance of the human skin to roentgen rays or to a given quantity of radium as a criterion, the dose should not exceed two-thirds or three-fourths of the so-called erythema dose. In infants, even one-half the erythema dose is sufficient. But regardless of the degree of improvement that may ensue, the gland should be irradiated again after an interval of two or three weeks; otherwise, the symptoms may

return. Two such exposures to roentgen rays generated at approximately 135 peak kilovolts, and filtered through 4 mm. aluminum, should permanently inhibit thymic hyperplasia.

Whooping cough. Some years ago, it seemed as if roentgen rays had a favorable action on some phases of this disease, notably on the paroxysms and on the mediastinal lymphadenopathy which was supposed to be frequently associated with or actually responsible for many of the symptoms. At least, such was the claim advanced by Leonard and supported by Bowditch and many others. For a time, the effectiveness of irradiation was corroborated by many of those who tried the treatment, but in 1924 the work of Faber and Struble cast a shadow of doubt over the entire question and made it appear that roentgen rays have little, if any, actual influence. At the present time, it may be said that the value of roentgen irradiation in whooping cough is uncertain, and this uncertainty will probably not be removed until the etiologic basis of the condition has been clarified.

LYMPHOBLASTOMA

Leukemia. When it occurs during the first decade of life, this condition tends to assume an acute form and its course tends to be short. In some cases radiotherapy may be useful for a short time, but in the majority such treatment seldom yields appreciable benefit. Moreover, unless given with great care so as to minimize systemic reaction, exposure to roentgen rays or radium may lead to undesirable complications and may actually shorten the patient's life. During the second decade, the disease usually is not so acute and radiotherapy may be more useful. Even during this period, however, the treatment should be given slowly and the behavior of the blood corpuscles should be watched closely. In all cases a small dose (less than half an erythema dose) should be given to each area treated, and the number of such areas should be as small as possible. Intense irradiation has no place in the treatment of leukemia of children of any age.

Hodgkin's disease. Relatively common in the third and fourth decades of life, this condition is not infrequently encountered during the second decade, but it is seldom seen among children aged less than ten

years. Radiotherapy is the only method of treatment that can be said to exert a substantial influence on the condition. Although the course of the disease varies considerably in different patients, the radiosensitiveness of the lymphadenopathic masses is such that irradiation provides a ready and reliable means of distinguishing this variety of lymphoid hyperplasia from tuberculous adenitis and other conditions with which it might be confused. In Hodgkin's disease, the enlarged lymph nodes recede rapidly after irradiation, while in tuberculous adenitis the recession of the nodes is quite slow. Exposure to roentgen rays or radium may also be useful in differentiating mediastinal lymphadenopathy incidental to Hodgkin's disease from other tumors of the mediastinum. In the case of the former, the mass of enlarged nodes may diminish in size from 20 per cent to 100 per cent in from a few days to two or three weeks. So rapid and characteristic is the regression that its absence indicates with practical certainty that the mediastinal mass is not essentially lymphoid in character. Also, too rapid regression after ordinary irradiation may give valuable prognostic indications by showing that the disease is comparatively acute, that the lymphoid system is exceptionally unstable, and that death within a few months is certain.

In every case the state of the lymphoid structures and the extent of involvement should be thoroughly investigated by systematic physical and roentgenologic examinations. Sometimes, indeed usually, the disease begins in the cervical region and thus implies chronic infection around the tonsils, nasal accessory sinuses, nasopharynx or teeth. In some cases the first symptoms are abdominal, the first nodes to enlarge perceptibly are the inguinal, and the gastrointestinal tract appears to have been primarily implicated. Surgical verification of such implication is not rare. Itching, fever, or both usually indicate involvement of the abdominal nodes (retroperitoneal, para-aortic, mesenteric or biliary). Thorough irradiation of the abdomen generally can be relied on to cause pruritus, with or without toxic lesions of the skin, to diminish or disappear. Fever also tends to abate, but in some cases it does not disappear completely or for any length of time. In any event, roentgen rays alone or roentgen rays com-

bined with radium should be applied to all regions in which the lymph nodes are palpably enlarged or in which roentgenologic or circumstantial evidence of lymphadenopathy is strong. The dose to each area treated should never be large, and sufficient time for treatment should be taken to avoid pronounced systemic reaction. Unless excessive, leukopenia or anemia does not contra-indicate irradiation; on the contrary, it is a formal indication. In the majority of cases, when a large part of the body must be irradiated, roentgen rays of medium wave length, filtered through 4 mm. or 6 mm. of aluminum are preferable to rays of shorter wave length. Usually, the treatment should be repeated from two to four times at intervals of three to four weeks. Subsequently, the patient should be examined periodically (intervals of three months) and further treatment given from time to time as may be necessary. The condition of many patients may thus be greatly improved, and some may be kept well for months or for several years. As a rule, however, Hodgkin's disease during childhood is not conducive to long life.

TUMORS

Benign tumors. Among children the only benign neoplasm (in most cases it is not a true neoplasm) that is amenable to radiotherapy is the so-called benign giant-cell tumor of bone. Formerly, amputation was regarded as imperative, but during recent years the surgical procedure most in vogue has been to curet the interior of the lesion and to swab the wall of the resulting cavity with some powerful chemical agent. At the present time, such operations are no longer essential in most cases, because it has been found that pathologic processes of this kind are distinctly radiosensitive and can be effectively cured without operation. Two or three weeks after irradiation, the tumor in some cases may become painful, may swell, and the pain and swelling may be accompanied by reddening of the overlying skin. Unless forewarned, the patient, the relatives and even the attending physician, may infer that the rays have incited the tumor to more active growth, and the limb may be needlessly sacrificed. Such inflammation is only a transient phase of reaction and subsides spontaneously in two or three weeks, after

which new osseous tissue is slowly deposited and in time the growth is replaced by solid bone. The reparative phase may require from six months to two years. Surgical treatment may now be restricted to the small proportion of cases in which malignant transformation of the growth occurs, and to cases in which special indications make surgical measures advisable.

Malignant tumors. In general it may be said that the younger the child, the worse the prognosis when it is attacked by any malignant process. Still, certain varieties of neoplasm are radiosensitive to varying degrees. Thus, in the diffuse endothelioma (Ewing) or endothelial myeloma (Kolodny) of bone, adequate irradiation is followed by rapid and sometimes by complete and permanent regression. So characteristic is the rate of regression of such tumors that it serves to distinguish them from all other neoplasms which affect the bones. In many cases, unfortunately, an excellent immediate result is spoiled by distant metastasis. The metastatic deposits also are readily influenced by the rays; if metastasis is confined to a single region prolonged improvement or cure may still be possible, but when the malignant cells have been disseminated to several different regions, permanent cure is out of the question.

Chondrosarcoma of bone is moderately sensitive to irradiation, and considerable im-

provement may follow thorough treatment, but permanent cure is rare. True osteogenic sarcoma can hardly be said to be radiosensitive. On the contrary, it must be classed among the most resistant of tumors. Appreciable, temporary benefit may sometimes follow intense irradiation, but prolonged improvement or cure is rare indeed. Few cases of complete and permanent regression of such neoplasms have ever been reported, and their authenticity has not been absolutely established.

Among the tumors that are occasionally encountered in children is the so-called Wilms tumor of the kidney. Radiosensitive to a limited degree, such growths can often be made to recede perceptibly in a relatively short time, but I have never seen one disappear completely or permanently. Among children epithelial tumors are decidedly uncommon, but when they occur the prognosis is decidedly unfavorable. Limited, temporary regression may be induced by exposure to roentgen rays, to radium or to both agents combined, but a real cure is practically unheard of. Although complete and permanent disappearance of the less radiosensitive varieties of tumor is usually out of the question, sufficient regression for weeks or months may sometimes make treatment worth while as a means of relieving symptoms and of delaying the fatal outcome.

TUMORS OF THE FEMALE BREAST*

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Any one making any sort of an extensive review of the literature of pathological conditions of the breast is apt to become very much confused and bewildered by the nomenclature. Different terms are used to describe identical conditions and each of these pathological conditions as it divides itself into variations is apt to assume a new name. The origin of these various pathological conditions is oftentimes left unexplained or in doubt. I think that nearly every surgeon has had this experience and desires that the tangle be unravelled and that, if possible, the matter be made simple and clear. There is much in breast pathology that is not clearly understood, but I believe that this can be done. We may not be able to follow the pathologist in every detail, but our main conceptions may be correct and at the same time simple. Incidentally it will be invaluable in the matter of management. This is

best attained, in my opinion, by going back to the original histology of the breast in its various phases of sex life. Before puberty the male and female breast is very similar. It consist merely of a few ducts without acini. In the male this rudimentary condition ordinarily persists through life. In the female, however, because of the function which the breast must serve, the histological

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changes are very great. At puberty the ducts extend and ramify and acini or buds of epithelium are formed in the various lobules which together represent the whole mammary gland. These acini contain no lumen and are functionally inert. At each menstrual period there are more or less marked histological changes attended often by congestion and tenderness. There is a rapid formation of acini and new lobules derived from the epithelium of the small ducts. When impregnation does not occur these new lobules disappear. In other words, they undergo involution. A woman menstruates 300 or 400 times or more during her life, so that this influence becomes a very important one. At the menopause, when ovulation no longer continues, the breast passes permanently into a condition of involution. The most marked change of all occurs when pregnancy takes place. The gland becomes the seat of an extreme epithelial hyperplasia and a lumen is formed in the acini. According to Boyd, the acini are enlarged, large numbers of new acini are formed, the epithelium changes from the cuboidal to the tall columnar form, and the lumen of the acini may be crowded with firm like epithelial projections very much like that of thyroid hyperplasia. It is a picture of unbounded epithelial activity, differing from that of carcinoma in that the activities are restrained and orderly. These changes are still more marked immediately after labor, when the gland is called upon to produce milk. After lactation ceases marked involution takes place. An involuting breast varies greatly in appearance at different points. Evolution or involution appear to affect the organ in no uniform fashion. The picture is a mixture of hyperplasia and involution. Speaking generally, there is an atrophy of the parenchyma with an increase in the fibrous tissue. Other changes in the structure of the breast, of which there are many, are secondary to this simple process.

All of these changes are due to the influence of the ovary in its various functional and histological cycles, and perhaps some of the other ductless glands in combination with the ovary, and apparently to other influences not understood. I am passing by those changes due to infection which come mainly under the observation of the obstetrician. If the changes in the breast went on in a perfectly orderly way they would

be of academic interest only, but such, of course, is not the case. The involution which takes place after ovulation, pregnancy or lactation may not be regular, and in consequence we have a whole array of pathological changes which may be grouped under the title "chronic mastitis." Among these we find round cell infiltration, which has led to the idea that we are dealing with a primary inflammatory condition or infection. The truth is that the whole picture means merely an abnormal hyperplasia-involution process. Because of tradition, the term "chronic mastitis" will probably remain and I am retaining it here.

"Chronic mastitis" in milder form undoubtedly exists in many breasts, but it is not clinically easily made out, especially if there is plenty of adipose tissue. In more outspoken form and in thin breasts it is more easily detected—there is thickening and slight nodulation. More particularly in its manifest forms such breasts may give rise to pain. Certainly the so-called "chronic mastitis" which is so common is not to be regarded particularly as a precursor of carcinoma, in the sense that its removal for preventive purposes is advisable. Probably most women, if their breasts were to be intimately examined, would present pictures that would correspond to the condition known as "chronic mastitis." In manifest forms we may not particularly prognosticate the later development of carcinoma. In fact, women who do develop carcinoma, judging by experience, give but little antecedent history of any trouble with the breasts. If such breasts are ever removed it should be done only because of exceptional pain and discomfort.

With a knowledge of the histology of the breast and its normal manifestations during various phases of sex life, and with a knowledge of the processes of abnormal hyperplasia-involution processes, we are ready to discuss the neoplasms of the breast. The tumors of the breast, including carcinoma, are untoward effects of this process of evolution and involution. Just why a woman develops a particular neoplasm is, of course unknown to us. We must content ourselves at present with knowing that each is simply a part of a general process. There is a long list of such neoplasms, but most of these tumors occur infrequently, and the tumors which we see from day to day come under

a few general headings. First, those tumors which occur directly as the result of an abnormal hyperplasia-involution process. The cysts of the breast are its best example. The cysts do not occur as a blocking of the ducts, but to a natural increase in the size when the acinus was enlarging during hyperplasia and which, for some reason we do not understand, failed to return to its normal size; the hyperplastic epithelium disappears, more fluid collects, and we have a cyst. Cyst formation, therefore, may be looked upon as a direct evidence of abnormal involution.

The intimate reasons for the development of the adenofibromas are not understood, and we must be satisfied at present with knowing that they are a part of a localized abnormal hyperplasia-involution process. They may be single or multiple, and inclined to recur in the same or the other breast. They may be readily divided into three groups. A peri-canalicular fibroadenoma, a hard growth, well encapsulated, a very movable tumor giving very definite microscopical findings of fibrous and adenomatous tissue. The intracanalicular fibroadenoma is a second variety. It is similar to the pericanalicular form but has much more of the fibrous element. It is also an encapsulated tumor and on the cut surface may resemble somewhat a carcinoma, but both of these tumors are encapsulated and not diffuse as with carcinoma. There is remarkable proliferation of connective tissue which projects into the ducts in the form of polypoid masses producing great elongation and distortion of the ducts, which are usually much dilated. From this growth arise many varieties and therefore a multiplication of terms in naming them. Neither becomes carcinomatous. A third form of benign growth which interests us more and more because of the possibility of its developing into carcinoma are the duct-papillomata. The two previous varieties do not develop into carcinoma; the latter may. An occasional sarcoma apparently develops from the simple adeno-fibromas, but this is very rare. The papillomatous form is that in which we see a little bloody discharge from the nipple, and finding this we may suspect one or two things—either the woman has a carcinoma actually developed, or that she has a simple papilloma. The bloody discharge is due to the fact that the blood vessels are large and thin walled, which gives

rise to a little bleeding. In this benign growth the epithelial element is the most in evidence and of greatest importance, whereas with adeno-fibromas in general, fibrous tissue plays the larger part.

The intimate cause of carcinoma of the breast is, of course, unknown here as elsewhere. It is again associated in a general way with the hyperplasia-involution process that I have mentioned. Thus one may trace the connection between ovulation and carcinoma of the breast.

It is well to remember that by the time cancer of the breast is clinically manifest the disease has already made some little progress. The diagnosis is practically certain when there are definite signs of contraction or of invasion. If such were always present we would be relieved of much responsibility and might manage differently with the benign neoplasms. But such, of course, is not the case. Cancer very frequently masquerades under the cloak of a simple or benign process. We may make a shrewd guess as to the nature of a particular tumor that we see, but we cannot be sure, as experience shows, and it is, therefore, necessary to explore all neoplasms to determine their nature.

The so-called duct carcinoma is the most frequent form met with—the acinar form is less frequent. Those arising from previous papillomata are common enough and here is where we must frequently have our pathologists in doubt.

There is one form of carcinoma of the breast which merits special consideration, although its incidence is not nearly as frequent as are other forms—namely, Paget's disease of the nipple. Any protracted inflammation of the nipple and areola should give rise to the thought that we may be dealing with a Paget's disease of the nipple and that, therefore, the process is malignant. The disease begins below the nipple, oftentimes in the ducts, and in its beginning does not manifest itself by a palpable tumor. The lymphatics to the skin become blocked and a dermatitis, or something that resembles it, is the result. The epidermis becomes hypertrophied, Paget's cells, which are merely edematous cells, may be found and there is epidermal round cell infiltration. When we see such a case clinically an exploration of the breast is necessary. Such problems are oftentimes real problems, a diagnosis being

easy neither for the clinician nor the pathologist. If the disease is established within reasonable certainty radical amputation should be done.

Consider now the array of pathological conditions of the breast as they commonly present themselves to the clinician. Does a tumor exist, or not? Are we dealing with a chronic mastitis, so-called, or one of the neoplasms which are associated with it? Is the neoplasm benign or malignant? Careful palpation of the breast, more particularly with the hand flat against the breast, will demonstrate the presence of a neoplasm in the vast majority of cases. Breasts that are subject merely to chronic mastitis flatten out under palpation—a neoplasm does not. It is an old method of examination, but a fairly reliable one. If doubt exists the breast should be explored. If a neoplasm exists the first and all-important thing to determine is what is its nature. I reiterate for

the sake of emphasis. One should suspect carcinoma, however simple the case, until the contrary has been proved. To be sure we sometimes make a shrewd guess, but that is not sufficient and no one, however expert, can be too sure. I believe we should be prone to conservatism and remove a benign tumor itself and no more whenever feasible. They may recur and one may again operate conservatively. Occasionally such a breast is best amputated. Carcinoma of the breast on the other hand, if operable, demands a radical operation. Most of the mistakes are made by putting off this procedure. For the sake of treatment one may divide all tumors of the breast into two groups—first, carcinoma that is so manifest that one may be unqualifiedly sure of the diagnosis, and secondly, all other tumors considered doubtful and demanding an investigation.

SOME CRITICAL REMARKS ON THE RECENT LITERATURE ON SPINAL ANESTHESIA

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DETROIT

With the very great increase in the literature on spinal anesthesia, it seems regrettable that many articles appearing in the current literature are written either by *proponents* or *opponents* of the method and their analysis of the subject is reflected by opinions already formed as to its value or lack of value. This unfortunate condition serves to confuse rather than to clarify the problem.

I shall quote a few recent authors to illustrate: Ferguson and North in a very excellent experimental article say: "A favorable early reception of a new clinical method may in itself prove a handicap." "The very enthusiasm with which they (the methods) are received may be their undoing."

When a doctor comes into the operating room and sees the great relaxation and increased room in the abdomen provided by spinal anesthesia and the very apparent advantage obtained, he very often immediately decides to use the method, and forthwith starts its use without any possible training nor any idea about its *indications* or *contra-*

indications and with no idea what to do to prevent untoward symptoms nor what methods to use to combat them if they arise. He soon meets some obstacle with which he is unable to cope and blames his troubles to the method rather than to his own lack of experience or training in handling it.

I have absolutely no quarrel with anyone who desires to use spinal anesthesia nor with any one who does not wish to use it but I feel that articles written on the subject should throw as much light on the method and give as much scientific information as possible without being subject to possible criticism or bias.

A few examples with accompanying comment will serve to explain: One article¹

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stated: "Untoward symptoms occurred in 90 per cent of the cases."

I submit that this statement is an exaggeration or else is greatly in need of explanation. In the "untoward symptoms" referred to, nausea and vomiting were leading reactions. I am sure that any one with any experience with spinal anesthesia will say that nausea and vomiting are certainly less than with inhalation anesthesia.

The same article suggests that "spinal anesthesia should not be used in operations on the heart, lungs, neck, head, and throat."

Now it is a generally accepted fact by most surgeons using spinal anesthesia that it is not to be used in operations above the diaphragm.

Another article on spinal anesthesia² states that pulmonary complications are 4.29 times more frequent than with inhalation anesthesia.

In the same article, the statement is made that "operations lasted one-half longer under spinal anesthesia than under inhalation anesthesia."

We are unable to review the statistics quoted on the pulmonary complications but because of the fact that the statements about time consumed in operation are so completely at variance with the usual observations together with the fact that these statistics (regarding pulmonary complications) are at great variance with the usual findings of other observers we cannot help entertaining some skepticism upon the whole report.

Everyone with whom I have discussed the article is at a loss to explain this statement (regarding duration of operation) as the experience of all with whom I have discussed it is that the time of operation is reduced by 25 per cent to 35 per cent because of the greater relaxation and retraction of the viscera.

Falkner Hill of Manchester, England, a very careful observer and excellent authority on anesthesia, says:³ "In spinal anesthesia muscular relaxation is so complete as to facilitate and therefore shorten every abdominal section."

Kreig,⁴ in a careful review of 222 cases of spinal anesthesia, writes: "We have found in this series that spinal anesthesia was generally superior to other anesthetics of equal magnitude. We believe that it should be given wider consideration in emergency surgery below the diaphragm because shock,

trauma and time were naturally lessened and the immediate postoperative progress was more rapid."

Koster and Weintrob, after a comprehensive search of European and American journals for data on the complications of spinal anesthesia, write: "Pulmonary complications were found to be certainly less frequent than after inhalation narcosis."

Weinstein and McHugh⁵ are of the opinion that "trauma is minimized and operation time almost halved." "The incidence of postoperative pulmonary complications is much reduced."

Lindemulder⁶ refers to deaths following spinal anesthesia in prostatic cases. "First patient died twenty days after operation. His only complaints up to two days before his death were weakness and pains in the extremities. He suddenly went into coma, at which time his blood pressure was 138 systolic and 72 diastolic. The nonprotein nitrogen was 55.6 mg. The heart showed mild decompensation. The neurologic examination was negative except for diminished tendon reflexes. An autopsy was performed five hours after death. The pathologic diagnosis by Dr. C. V. Weller was as follows: "Section of the spinal cord and meninges showed congestion and numerous small psammoma bodies in the meninges. The brain demonstrated congestion and edema in the meninges and brain substance. Throughout the lower portion of the pons and upper medulla there were numerous small false psammoma bodies of the myelin droplet type. There was advanced chronic bilateral ascending purulent pyelitis and pyelonephritis, hyperplasia of the prostate with urinary obstruction, urinary extravasation through area of necrosis in the bulba urethræ, subacute purulent cystitis and prostatitis with fibrinopurulent exacerbation in the operative field, hypertrophy of the bladder musculature, generalized arteriosclerosis (most marked in the aorta and coronaries), calcifying endocardial sclerosis, myocardial fibrosis, nutmeg liver, and chronic adhesive pleuritis."

The second patient, who died twelve days following operation and who had been treated previously for syphilis, showed no evidence of organic disease of the central nervous system at the first examination. Following operation, he complained of pains in his arms and shoulders. The Kahn reac-

tion, as well as other spinal fluid examination, was negative. He had good anesthesia during the operation, but immediately following it he was confused and cooperated poorly. Apparently he was able to feel pain and the tendon reflexes were hyperactive. The pathological findings made by Dr. C. V. Weller were as follows: "There was edema of the meninges and spinal cord. No myelinosis was present in the upper cervical cord and in the medulla, but in the lower cord there was a marked myelinosis, especially near the meninges. Some small nerve roots showed an extensive degeneration of the fibers with a loss of myelin sheaths. There was advanced adenocarcinoma of the prostate, metastasis in regional and bronchial lymph nodes and vertebrae, partial transurethral recession of the prostate, chronic purulent cystitis, right ureteritis, pyelitis and pyelonephritis, pyemic pneumonia, old syphilis (myocarditis, aortitis, hepatitis, suppurative, orchitis), coronary and aortic arteriosclerosis, and endocardial sclerosis, with calcification."

The age of neither patient is mentioned but the article states that all cases were between fifty and seventy. It seems pertinent to mention here Deaver's statement that "mortality is bound to be high in surgery on the dying."

The title of Lindemulder's paper, "Spinal Anesthesia—Its Effects on the Central Nervous System," would lead one to think that the author attributed these deaths and particularly the postmortem findings in the central nervous system to the spinal anesthesia. The findings in these cases discussed by Lindemulder which he implies is the result of spinal anesthetic can be discounted. In the first case, the small calcified deposits described (psammoma bodies and false psammoma bodies of the myelin droplet type) are very often seen in old age and long standing degeneration of the spinal cord. It seems quite unlikely that such extensive changes could be brought about in such a short time. It is more plausible to assume that they existed before the spinal anesthesia. In the second patient, the autopsy findings are not conclusively attributable to recent damage of the spinal cord. Staining for spirochetes in the lower section of the cord especially in view of the old syphilis might have revealed unsuspected findings. Furthermore, the time between

death and autopsy is not stated in this case and it is well known that central nervous system tissue degenerates *rapidly* and *not equally* after death.

Another author⁷ produces what he terms a "yardstick" for anesthesia. This "yardstick" immediately precludes the possibility⁸ of using *any* form of *spinal* or *local* anesthetic of *any* nature.

I doubt seriously if many present day surgeons would be willing to completely abandon all forms of local anesthesia for the sake of the "yardstick" quoted. But after relegating all forms of local anesthesia to the "limbo" by the "yardstick," the author goes on to state that spinal anesthesia is very dangerous, more so than chloroform. He then quotes from Dr. L. F. Sise of the Lahey Clinic in Boston "that there were fourteen deaths in Greater Boston in 1928 in 1,900 cases." He failed to state, however, that the article in question further stated that in the clinic reporting there was only one death and the cases in which it was used outnumbered by more than two to one all other cases reported in Boston. This article was essentially an appeal for more knowledge and better technic in the use of spinal anesthesia and showed that while the death rate was near 1 in 50 in Greater Boston in general during that period still there was only one death in about 1,200 cases in their own clinic.

I have not the article in question before me but I have stated the essential facts.

Bevan's article further states: "Spinal anesthesia is not a comfortable method, especially to an intelligent man who realizes what is being done. Few medical men with knowledge of anatomy and anesthesia would choose spinal anesthesia in their own case."

I am quite sure that some of the "intelligent" people I have operated upon under spinal anesthesia would take exceptions to this statement as in *every* case they have been greatly pleased with the method and insist they would never be operated upon by any other method. In regard to the latter part of the quotation, I shall be glad to refer to the Chief Resident Surgeon, the Chief Resident Physician, other internes in our hospital, the Chief Surgeon of another large hospital in this City, the Chief of a Research Department in a manufacturing drug house as well as several other medical men who have been operated by me in the last year

under spinal anesthesia by their own request. The author refers to "especially persistent and severe headaches lasting for days and weeks." In our series of over 1,900 cases, we have had four headaches, two quite severe, one lasting two or three days and one lasting five days. Of course, those employing spinal anesthesia regularly are not finding any difficulty in eliminating these headaches and controlling them if they should occur.

Another writer⁸ states: "Tiltometer recommended by Pitkin which gives the exact angle at which the table should be set is helpful but does not always insure success." In this connection it should be remembered that we are administering this anesthetic to the *patient* and not to the *table* and while the tiltometer gives the level of the table the patient with broad hips and narrow shoulders would have a spinal canal distinctly in the Trendelenburg position though the table was absolutely level. The reverse, of course, would be true with a patient with very broad shoulders and narrow hips. The greatest variation, however, is found in those with a lateral curvature of the spine in the lumbar region. I know of no other way of insuring the absolute level of these spines except by the use of a small device of the nature of a spirit level with an air bubble. This device was first brought out by Dr. T. G. Yeomans of St. Joseph, Michigan, and has been used by myself in over one thousand consecutive cases with uniformly good results. This author further states: "The weight of the patient should also have some bearing upon the dose to be used, somewhat larger doses being indicated in heavy cases." The size of the patient's bony structure has a definite bearing on the amount of anesthesia required. The weight of the patient, however, has no bearing whatever, that is to say, a patient of small bones and a stature of five feet would not require any more spinal anesthesia if he weighed 200 pounds than he would require if he weighed only half that amount.

This writer further maintains that: "The last two drugs (ephedrine and adrenalin) are supposed to act upon the vaso-constrictors which are contained in the anterior or motor roots. The latter being paralyzed, no amount of stimulation would produce any effect."

The above statement has been made by

many writers on this subject and we are surprised that writers still take the same position. The fact remains that effect is produced, theory to the contrary notwithstanding. This effect of raising the blood pressure with ephedrine after anesthesia is complete can be demonstrated on any case at any time during the operation. This we have proven repeatedly in the same case and in many different cases. This author further declares, "Regarding cardiac and respiratory complications that are so many other contributory factors besides the anesthesia that nothing definite can be gained by simply quoting statistics. Such complications as post-operative coronary thrombosis, pulmonary embolism, pulmonary atelectasis may occur under any type of anesthesia, general, local or spinal. On the other hand, the complications due to irritation of the respiratory tract or to inhalation of foreign substance will be practically nil. In cases of intestinal obstruction where, under general anesthesia, patients often die from drowning in their own vomitus, spinal anesthesia is certainly a life saving method." With this statement, we absolutely agree.

Crile, in his experiments on shock from anesthetics, tells us that in normal men inhalation anesthesia (chloroform and ether) more markedly than nitrous oxide or ethylen and oxygen anesthetic caused increased hydrogen-ion concentration of the blood, forming an acute blood acidosis during and about an hour after anesthesia. Protracted ether or chloroform anesthesia causes cytologic changes in the cells of the brain, the liver, and the adrenals identical with those resulting from other causes of exhaustion. After four to six hours of continuous ether anesthesia, many animals die at once. He finds that ether and chloroform actively contribute to shock. The ill effects are due to a chemical effect of the anesthetic on the brain cells.

The following is a quotation from Weinstein and McHugh:⁹ "If spinal anesthesia is dangerous, it is because it is used carelessly. If there is infection, it is because the technic has not been perfected."

Sullivan¹⁰ reports a case of a man who had nine spinal anesthetics in less than two years, five of these spinal anesthetics were given in thirty-eight hours, following which a complete neurological examination showed no reflex sensory or other changes.

I feel that the foregoing quotations together with our comments on them will serve to emphasize the importance of very careful thought and analysis before positive and dogmatic statements are made, particularly in the medical literature which is read so generally by many men who are not in position to evaluate some of the statements for themselves.

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THE TREATMENT OF TRICHOMONAS VAGINALIS VAGINITIS*

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Nearly one hundred years have passed since Donné, in 1837, described the protozoa trichomonas vaginalis. Contemporary writers considered these flagellates as harmless parasites, and of no clinical importance. In 1896 George Dock¹ reported the finding of trichomonas vaginalis in a vaginal discharge, and N. S. Davis² reported a similar case. DeLee³ in 1920 gave a good clinical picture of this type of vaginitis. However, no general interest in this subject was manifest until 1928 and 1929 when Greenhill⁴ and C. H. Davis⁵ presented papers, describing a distinct clinical picture of a vaginitis caused by trichomonas vaginalis. In the past two years numerous authors have published articles dealing with this subject.

Inasmuch as the object of this paper is to bring to the attention of the profession a new method of treating vaginitis produced by the trichomonas vaginalis, only a brief clinical description will be given.

The majority of patients suffering from this protozoan infection consult the physician because of an irritating vaginal discharge. Usually they have had considerable local treatment, with a temporary improvement, but after a time the infection has returned. Many have had operative procedures without any improvement. Frequently these patients are told that they are suffering from a gonorrheal infection in a chronic state. Kamperman⁶ calls attention to the number of married women, who have dysperunia from a trichomonas infection.

The local examination reveals an irritated, reddened vulva and introitus. In the severe cases a dermatitis or intertrigo is seen about the vulva and on the thighs. The vagina is diffusely red or shows irregular areas of redness. The vagina is extremely sensitive, and bleeding occurs upon digital

or speculum examinations. The cervix may be uniformly inflamed or show a mottled appearance; however, the cervical canal seems to resist this infection.

The leukorrheal discharge is fairly characteristic. It is a thin, greenish yellow discharge; at times it is foamy in appearance, and has an acid, disagreeable odor.

The diagnosis is easily made by mixing a loopful of discharge with a few drops of physiological salt solution, and examining with a high power objective. The protozoa are easily seen when the light is cut down. If the patient has taken a douche within forty-eight hours preceding the examination, it is almost impossible to find the causative agent. At the end of menstruation the organisms are most numerous, as they seem to thrive best in a blood-containing medium.

All of the clinicians who have treated many cases of trichomonas vaginalis vaginitis are agreed that many chemical agents will cause the protozoa to disappear, but the tendency toward recurrence is very marked. This is especially true in women before the menopause.

C. H. Davis⁷ studied the effect of various germicides on trichomonas vaginalis. The

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agent used were: gentian violet, mercurochrome, glycerine, methylene blue, alcohol, copper sulphate, lactic acid, Lugol's solution, bichloride of mercury, lysol, potassium permanganate, metaphen, green soap, sodium hydroxide, silver nitrate, alum, and zinc sulphate. Of these agents the most effective were: alcohol, green soap, Lugol's solution, bichloride of mercury, lysol, silver nitrate and mercurochrome.

No specific treatment has been advanced for trichomonas vaginalis vaginitis. Each worker has favored a certain chemical agent found in the group before mentioned. A somewhat general routine has been followed by all. On the supposition that the infecting agent comes from the intestinal tract, the external genitals and anal region are scrubbed with tincture of green soap; the vaginal and cervix are scrubbed with cotton pledgets soaked with green soap; the vagina is irrigated and dried; some germicidal agent is applied to the vaginal walls and the cervix, as well as the external membranes; or tampons containing the chemical agents are inserted and left in over night. Germicidal douches are used by the patient between office treatments.

To illustrate the various agents used in the treatment of this disease I quote a paragraph from J. P. Greenhill's⁴ recent article.

"While this type of vaginitis can readily be relieved by local treatment, it is frequently difficult to cure it. A large proportion of women have recurrences either early or late, and because of this, many recommendations have recently been made concerning the treatment. Davis⁷ suggests the use of compound solution of cresol or green soap, followed by antiseptic powders for some cases, and mercurochrome-220 soluble and glycerin for others; Furniss⁸ praises a 1:4000 solution of mercuric chloride used as a douche; Cary favors 2 per cent silver nitrate; Kleegman and Holden apply mercurochrome and Lassar's paste; Gustafson⁹ uses sodium bicarbonate douches and glycerine-soda tampons, and Mathieu¹⁰ obtained good results with a treatment I outlined in my previous paper, except that he substituted hexylresorcinol for the methylene blue."

Greenhill¹¹ is now using hexyresorcinol in place of methylene blue.

These references show the treatments be-

ing used at present, and emphasize the lack of a specific treatment for this disease.

About one year ago, at a hospital staff meeting, I gave an informal talk on trichomonas vaginalis vaginitis. Dr. Mark Marshall, in discussing the subject, said that several cases of trichomonas intestinalis had been treated by intravenous neo-salvarsan, and apparently cured.

Immediately I tried this drug in very dilute solutions, using the living active protozoa in a drop on the glass slide. In very dilute solution, the protozoa immediately became non-motile and apparently were killed.

At this same time, I had twelve patients under treatment for vaginitis caused by this organism. Using 0.3 of a gram of neo-salvarsan, dissolved in 10 c.c. of distilled water, tampons saturated with this solution were inserted into the vagina after scrubbing with green soap. These treatments were given twice each week for four treatments, and the results were good, although two patients in this group were irritated by the solution coming in contact with the excoriated external genitals. Later a thin ointment was prepared from:

Neosalvarsan3 gram
Glycerin	2 drams
Muscio. tragacanth. q. s. ad.....	2 ounces

This was put up in a collapsible tube, to which a small glass douche point could be attached. This preparation when injected into the vagina, caused no irritation and produced the disappearance of the trichomonas.

Using the following routine, I have treated thirty-two patients during the past year. Having confirmed the diagnosis by the microscope, the external genitals and anal regions are cleansed with a tincture of green soap. A vaginal speculum is inserted and the discharges carefully wiped out with cotton pledgets. No attempt is made to scrub the vagina nor to produce bleeding from the reddened areas. The vagina is filled with the neo-salvarsan ointment and a small tampon is inserted to keep it in. This medicine is left in until the following morning, when the tampon is withdrawn and 0.5 per cent lactic acid douche is taken by the patient. Each night, except when the tampon is in, the patient injects an ounce or two of a 1-2000 neo-salvarsan solution into the vagina, using a small ear and ulcer syringe. Each morning, the patient takes a

lactic acid douche. The office treatments are given twice each week for one month, and the 1-2000 neosalvarsan solution is used for one month after office treatments have stopped. The treatment is discontinued after two months, and from time to time any discharge found is examined for protozoa. The patients are requested to come to the office just after menstruation is over.

With the exception of two cases, all of the patients receiving this treatment have apparently been cured. The two exceptions have been irregular in their treatments due to traveling and other interruptions.

The advantages of this method of treatment, over the others recommended, are several. Most patients object to the scrubbing of the vagina with green soap, because it increases the irritation and produces soreness, especially in the acute stages. (Several patients discontinued the treatment because of the discomfort produced by this treatment.) Nulliparous patients and virgins can be treated by this method, without any undue irritation. The drug seems to be specific for the trichomonas vaginalis.

I have had no experience with the intravenous method of giving neo-salvarsan

for this infection, but if a patient could not be kept under observation and treatment, or she proved refractory to other methods I would certainly use the intravenous method.

Trichomonas vaginalis vaginitis is a common infection as shown by the numerous recent reports. The clinical picture is clear and easy to recognize. The diagnosis is easily made by the hanging drop method or by the glass slide. Recurrences after treatment are numerous and call for persistence in the treatment. Neo-salvarsan used locally in solutions or in ointments promises prompt relief. Intravenous neo-salvarsan may be specific for trichomonas vaginalis infections, but as yet no reports have been made.

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THE PHYSICAL THERAPY OF THE COMMONER SKIN DISEASES*

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The chief physical agents employed in the treatment of skin diseases are the roentgen rays, ultraviolet rays, electrodesiccation and electrolysis, and this brief paper shall be limited to a consideration of only these four agents. The roentgen rays are, of course, the most useful of all, but extreme care must be exercised regarding accuracy of dosage, and the total dose administered over a given area must not exceed 4 skin units (4 minimum erythema doses), even over a long period of time, if ultimate atrophy, telangiectases and other undesirable sequelæ are to be avoided. MacKee has carefully worked out and tested a simple system of dosage measurement which has proved universally satisfactory in over thirteen years of use by

leading dermatologists. This system is well described in MacKee's book,¹ and that volume, as well as Hazen's recent publication,² are recommended as necessities to all who would treat skin diseases with roentgen rays. In this paper the term "skin unit" refers to the minimum erythema dose as measured by MacKee. With a 6-inch spark gap and a current strength of 3 milli-

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amperes, at a distance of 8 inches from the target to the skin, no filter being used, exactly 2 minutes would be required for the administration of a 1 unit dose, 1 minute for $\frac{1}{2}$ unit, 30 seconds for $\frac{1}{4}$ unit and 15 seconds for $\frac{1}{8}$ unit. A quarter-unit dose is usually employed, and for the scalp $\frac{1}{8}$ unit, at intervals of 7 days, and this is called fractional treatment.

Ultraviolet is of some importance as an agent in cutaneous therapy, but unfortunately its value in the treatment of many conditions seems to have been sadly overrated. So far as we know at present, it does no permanent damage to the skin. But these views may have to be revised in the case of its protracted use, over a period of years, for it is entirely possible that potentially premalignant keratoses may ultimately develop, as in so-called "sailor's skin." However, in dermatology such prolonged exposure is rarely needed.

Electrodesiccation, in which the monopolar high frequency current is employed with an ordinary small sewing needle as the electrode, is very useful for the removal of small growths, if properly handled. In my hands it has almost entirely replaced solid carbon dioxid and trichloroacetic acid. Those who would use it are referred to Wyeth's book on the subject.³ Its chief dangers lie in the employment of too strong a current or going in too deeply. A small needle is usually the best electrode for cutaneous work, and in the removal of warts and moles it is necessary to remember that the needle point should not penetrate deeper than the level of the surrounding skin surface. A spark of $\frac{1}{32}$ of an inch or less should be used, as a rule. In this way the growth may be removed at one sitting, and ultimate scarring may be minimized. In my experience with this method of treatment⁴ in 812 cases, keloid developed in only 2, and was then readily controlled by roentgen rays. But it would not seem advisable to employ electrodesiccation in patients with a tendency to keloid formation.

Electrolysis is a simple, comparatively harmless procedure, more tedious and often less thorough than electrodesiccation. A very fine needle, such as the English jeweler's broach, is used, together with a suitable milliammeter which is easily read and a current maintained at exactly 1 milliamper. Accurate time measurement is also essential.

THERAPEUTIC APPLICATIONS

Acne vulgaris is a disfiguring disease, often leaving permanent scars and frequently acting as a serious handicap in the patient's contacts with his fellows. Therefore all cases of acne should be properly treated, and none should be dismissed lightly with the statement that the condition will run its course and disappear sooner or later. Vaccines, which have enjoyed considerable popularity in the treatment of acne in general practice, have generally been proven practically worthless in the hands of dermatologists. In many of the milder cases attention to the general health and hygiene, together with constant strict avoidance of sweets and fats in the diet and treatment of the ever present seborrhea of the scalp, will effect a cure. When these measures fail, and in the more severe cases, we must depend upon irradiation with roentgen rays or ultraviolet, and the former is by far the more effective of the two, so far as permanent results are concerned. Quarter-unit doses of roentgen rays are given weekly, every fifth or sixth week being skipped, and a total of 12 such treatments is usually needed to complete the cure. No improvement is apparent, as a rule, until the course is half completed. The forehead and each cheek are treated separately, and the eyes, eyebrows and front of the neck must be carefully screened with lead foil.

Some authorities have advised the combined use of roentgen rays and ultraviolet, but MacKee and Andrews have shown that this is dangerous, for any irritant may enhance the roentgen ray effect and produce an undesirable erythema, possibly followed by atrophy. For the same reason, irritating lotions must be avoided. Used alone, ultraviolet often produces some improvement, which is only temporary as a rule.

In my series of 399 patients completing a course of treatment with roentgen rays, 335, or 84 per cent, were cured in one course, averaging 12 treatments.

No form of treatment is likely to succeed unless the general health, hygiene, diet and scalp receive strict attention, as noted above, and the factor of constipation must never be overlooked. Continued attention to the scalp, diet and hygiene will usually suffice to prevent a recurrence, but in certain cases the eruption may reappear in spite of these precautions, and then irradiation must be

used sparingly, so that the total dose administered, including the first course, does not exceed 4 units. An occasional failure must be admitted.

Rosacea is hard to cure, and it cannot be treated successfully unless the patient's general health is thoroughly investigated and corrected. I have seen cases that resisted all treatment until an infected gall bladder was drained, and others which improved after sinus infection had been attended to. The diet must be observed as strictly as in acne vulgaris, sugars, fats, and also very hot, irritant and spicy foods and drinks being avoided constantly. Roentgen therapy, in fractional doses, often seems to cause a discouraging temporary exacerbation of the rosacea, which subsides toward the end of the course. Of 83 patients finishing a course of treatment, 71, or 85.5 per cent, were cured, an average of 13 quarter-unit exposures being required. Continued care is required to prevent a recurrence.

Epilation by means of roentgen rays has been widely recommended for use in cases of sycosis vulgaris, but I have not used it for this purpose during the past 10 years. Persistent local antiseptic medication has succeeded, and atrophy and telangiectasia have been avoided.

In the treatment of ringworm of the scalp, in this vicinity irradiation is not required. Complete cure can be effected by means of local medication, thoroughly applied. Penetrating applications containing iodine and thymol have sufficed. The same is true in cases of tinea cruris, but here the strength of the local medication must be reduced in order to avoid irritation.

Dermatophytosis, epidermophytosis or ringworm of the feet and hands, occurs in perhaps 50 per cent of the adult population, and as we all know it is very hard to cure. So far as I have observed, the use of ultraviolet is fruitless, and roentgen irradiation seems valuable only in clearing up the eczematoid manifestations. Such treatment does not seem to destroy the causative organism, and therefore it must be accompanied by the regular and frequent use of suitable mild parasitocides, such as potassium permanganate solution and preparations containing thymol and salicylic acid. If roentgen therapy is being used, irritating applications, such as Whitfield's ointment and its proprietary modifications, should be

avoided, and 2 per cent should be the maximum for active ingredients, excepting, of course, zinc oxid or boric acid. In my series of 513 patients receiving roentgen treatment, 71.9 per cent were cured or relieved with one course, averaging 8.4 treatments in quarter-unit dosage. After a cure has been effected, the continued daily use of a mild parasitocidal application is advisable, in order to prevent reinfection.

In treating the eczemas and the eczematoid eruptions, including many occupational dermatoses, eczematoid ringworm (mentioned above), seborrheic dermatitis, infectious eczematoid dermatitis and neurodermatitis (local and generalized), fractional roentgen irradiation is usually helpful. But in conditions which tend to recur it must be used sparingly, and as a procedure of last resort. And in order to secure the quickest benefit, suitable local medication of a mild type must be used simultaneously, and of course the cause must be removed if this is possible. Therefore it is not sufficient to diagnose the condition merely as eczema or an eczematoid eruption, but it must be accurately classified. A very important factor in successful treatment is the strict avoidance of scratching. The antipruritic effect of the roentgen rays is valuable but it develops slowly and must be supplemented by the frequent use of suitable local soothing applications.

In my series, 328 patients received roentgen therapy for seborrheic dermatitis, and 258, or 78.6 per cent, were cured in one course, averaging 5 quarter-unit doses. I treated 148 cases of pruritus with lichenification, and 124, or 83.7 per cent, were cured following an average course of 5.6 fractional treatments. In 71 cases of localized neurodermatitis, which were similarly treated, 56, or 78.8 per cent, were cured after one course, or an average of 6.5 exposures.

Psoriasis, recurring perennially as it usually does, may often tax the therapeutic versatility of the most ingenious. Fortunately, many cases respond well to treatment with direct sunlight, either natural or artificial, and such treatment may be repeated ad libitum with a fair degree of safety. Occasionally, however, an acute outbreak may be aggravated by ultraviolet exposure, and therefore it is advisable that the effect of this treatment be tried first over small

areas. Also of course there are some cases which absolutely fail to respond. Ointments, autogenous serum and other measures are often of value, and also arsenic, which, on account of its potential late dangers, should be withheld for cautious use as a last resort.

Roentgen rays, in quarter-unit doses weekly, constitute a clean and usually effective means of clearing up the eruption, but this very success may prove to be a danger, because the delighted patient is very likely to demand roentgen therapy for succeeding outbreaks. He may find a doctor who is willing to oblige, and if a total of more than 4 skin units is administered over a given area, even over a period of years, ultimate atrophy, telangiectasia and keratoses may result. I shall never forget one unfortunate middle aged man whom I saw in New York 12 years ago. He had widespread psoriasis, which had been recurring for years, and in addition there were many arsenical keratoses, and his hands and other parts showed extensive atrophy, telangiectasia, keratoses and epithelioma formation, the result of too much roentgen therapy. Therefore this form of treatment, while valuable, is to be used only occasionally and with caution. If the scalp is to be treated the weekly dose is usually $\frac{1}{8}$ unit, and the nails may receive a dose of $\frac{1}{2}$ unit every 2 weeks. Should the nail condition fail to respond readily, the treatment must be discontinued. I used roentgen therapy in 185 cases of psoriasis. The average number of treatments per course was 5.7, and 177, or 95.7 per cent, of the cases were temporarily cured. Eight, or 4.3 per cent, failed to improve.

In the treatment of pruritus ani, vulvæ or scrotalis, roentgen irradiation is very valuable, but it should always be used in conjunction with local mild antiseptic and antipruritic measures, including baths and proper ointments. Also the help of the proctologist or gynecologist may be required, and this had better be done first than last. Fractional unfiltered exposures are employed, $\frac{1}{2}$ unit being given the first week, $\frac{1}{3}$ the second, and $\frac{1}{4}$ each succeeding week, until one week after the itching has disappeared completely. Five or 6 such treatments are usually required to complete the cure, and in cases of pruritus scrotalis this amount of irradiation has been found to be safe. Of 104 cases which I treated, 85, or

81.7 per cent, were cured after one course. The others recurred later, but responded well to subsequent irradiation, and there were no failures recorded.

Keloids are removable only by roentgen rays or radium. In dealing with very thick keloids much time may be saved by excising the tumor and irradiating the scar.

Some cases of paronychia respond well to fractional ($\frac{1}{4}$ unit) or semi-intensive ($\frac{1}{2}$ unit) roentgen irradiation, the former being repeated weekly and the latter every 2 weeks, and it should be given a trial, but over-treatment is to be avoided.

Warts of all types may be removed by means of electrodesiccation, and if care is exercised the resulting scar should be negligible. A very fine needle should be used, and the tip of the needle should not penetrate deeper than the level of the surrounding skin surface. The rough warts that occur on the fingers and especially about the fingernails, and the warts appearing on men's chins and women's necks respond well to this treatment. Venereal warts also respond favorably. In dealing with plantar warts, however, it is often necessary to go in so deeply that the process of healing is protracted. Therefore, when confronted by a plantar wart, I usually pare it down as thin as possible with the curet, and administer $2\frac{1}{2}$ or 3 units of unfiltered roentgen rays, limited strictly to the wart itself. In my experience with plantar warts, 50 per cent have yielded to such treatment. If the wart does not disappear in 6 weeks, electrodesiccation may be used as a method of last resort.

Moles which are elevated above the skin surface may be removed by electrodesiccation. Those which are flat, like freckles, had better be left alone in order to avoid undesirable pitting. This method of treatment is rapid, usually removing the mole at one sitting, and the resultant scar is usually slight, if the technic is correct. The rough, warty moles may recur after electrodesiccation, and excision may be necessary. If the mole is hairy, any hairs which have not been removed permanently by electrodesiccation may be destroyed later by electrolysis. Capillary or spider nevi may be destroyed by electrodesiccation or electrolysis, and even cavernous angiomas may be desiccated effectively. The jet black or blue-back mole must be treated with respect, and had better

be excised very widely and deeply or let alone entirely. So-called senile angiomas, which are seen so commonly on the lips of elderly persons, can be destroyed readily by electrodesiccation. Xanthelasma, the small yellow tumors of the eyelids, may be removed quickly and completely by this means.

In cases of alopecia areata, even of long standing, the ultimate outcome is usually favorable, regardless of treatment. However, the regular use of massage and local irritants seems advisable, in order to stimulate the circulation about the hair roots on the chance of hastening regrowth of hair. In such cases, ultraviolet, in erythema doses, seems helpful, probably acting only as a local irritant.

Ultraviolet has enjoyed much popularity among the laity for treatment of premature and seborrheic alopecia, perhaps on the basis of the hope that the light might make the hair grow just as the beneficent sunlight helps the beanstalk to sprout. For 2 years I tried this form of treatment in these cases, but I have never had the good fortune to observe any regrowth of normal hair. Sometimes the growth of lanugo hair seemed to be stimulated, but it always remained lanugo hair.

Sluggish ulcers, especially those accompanying varicose veins, are often stimulated to heal by ultraviolet, which probably serves as a local irritant to increase the circulation. But other measures, such as elevation, must not be neglected if we would obtain good results.

The course of pityriasis rosea usually may be shortened a week or two by an erythema dose of ultraviolet, or by a small amount of fractional roentgen irradiation, and the latter is particularly helpful for the relief of itching.

Electrolysis remains the only safe method

for the permanent removal of superfluous hair. With careful technic, scarring will be slight or absent, and only about 10 per cent of the hairs will be likely to regrow. Such treatment requires much time and patience, and physicians have usually relegated it to the beauty parlors, but its correct performance is really one of the duties of the dermatologist. It may be done in his office by a trained assistant under his supervision. Under no condition should the roentgen rays be used for the removal of superfluous hair. Most dermatologists have seen women who have had hair removed in this manner and who have subsequently developed radiodermatitis, with all of its undesirable features.

In concluding, a few words of caution are needed. No case can be treated intelligently unless it has been correctly diagnosed and classified. And in the employment of physical therapy, as in other branches of medicine, good results are obtained only by those who have had the benefit of careful instruction and experience. Proper judgment is needed in handling each individual case, and one must know what form of treatment to use, how and when to use it, and when to stop. The dangers and limitations of physical therapy must be recognized. It must often be supplemented by other forms of treatment when these are available, in order to secure the best results.

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ELLIPTIC HUMAN ERYTHROCYTES

GARNETT CHENEY, San Francisco, calls attention to the fact that up to the present time, cases presenting human elliptic erythrocytes have been very rarely reported. It seems probable that they are more common than the meager literature indicates. The hereditary transmission of such unusual red cell forms is emphasized by a report of a family including forty-one members in three generations, fourteen of whom show this bizarre structure in the

blood. The transmission is probably by a simple mendelian dominant. Although this condition has been associated with secondary anemia and with sickle-cell anemia, there is insufficient evidence to justify any such relationship. Aside from the unusual erythrocyte forms, there is nothing else remarkable in studies of the blood or of the bone marrow. Elliptic human erythrocytes represent a departure from the round forms usually found and are not in themselves indicative of any disease, but are an inherited characteristic.—*Journal A. M. A.*

PERCUTANEOUS METHOD OF IMMUNIZATION
AGAINST DIPHTHERIA*

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Since the introduction of toxin-antitoxin by von Behring in 1913, numerous modifications of the original preparation as well as methods of detoxifying diphtheria toxin to render it less harmful have been advocated.

The original von Behring toxin-antitoxin was based on the hypothesis that a slight excess of free toxin was necessary to produce immunity. Park, using fully neutralized mixtures of toxin-antitoxin, and Lowenstein and Bousson, using over-neutralized mixtures, were able to produce immunity and disprove von Behring's theory. They further showed that the immunity produced by toxin-antitoxin mixtures develops slower than the immunity resulting from the use of unneutralized toxin.

The original von Behring toxin-antitoxin frequently produced local and general reactions, especially in older children. To overcome these reactions fully neutralized and over-neutralized mixtures of toxin-antitoxin were advocated and use.

After several years the dangers of sensitization to horse serum following the administration of toxin-antitoxin became evident and goat or sheep serum toxin-antitoxin preparations were substituted for horse serum toxin-antitoxin. These products have been widely used, particularly in the United States, but have not proved entirely satisfactory due to the frequent serum reactions resulting from the injection of these preparations.

Because of the unsatisfactory results with toxin-antitoxin many investigators have attempted to develop a more efficient product.

Ramon suggested and Schmidt used the earliest modification known as toxin-antitoxin flocculent ("T. A. F."): Lowenstein recommended and Ramon perfected diphtheria toxoid (anatoxin). This preparation is made by the addition of formaldehyde to toxin with the application of heat. Formaldehyde under these conditions tends to render the diphtheria toxin innocuous. This material contains no animal serum or free toxin and its use is advantageous since immunity may be produced without developing sensitization to animal serums.

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Ramon and Illingworth, Zingher, Fitzgerald, Weinfeld and Cooperstock, Schwartz and Janney, and Dick and Dick have all published reports of the use of toxoid.

The severe local and general reactions that may occur with the use of diphtheria toxoid (anatoxin) have deterred many physicians from the general use of this preparation.

In 1928, Lowenstein produced an ointment containing diphtheria toxin modified by formaldehyde and dead diphtheria bacilli. He added the diphtheria organisms so as to produce not only an antitoxin immunity but an antibacterial action as well. This preparation was rubbed into the skin of guinea pigs. Later both the treated and control animals were given lethal doses of toxin. All of the control animals died and none of the treated animals suffered any ill effects.

Lowy, one of Lowenstein's co-workers, then used this ointment on 176 children and, in 1929 reported that 68% of those treated had become Schick negative.

Since the publication of Lowenstein's and Lowy's work numerous investigators have reported their results with this method of immunization.

Besredka experimented with rabbits and found it was possible to produce immunity by applying toxin to the skin after cutaneous friction. Schmidt used guinea pigs and was not able to produce immunity by the inunction of toxin. However, Jakopp and Streit reported good results following the use of the ointment but failed to give data as to the number of cases treated and the results.

In addition Lowenstein,¹ Lowy,² Baar and Grabenhofer,³ Siegel and Hassmann,⁴

M. Stransky,⁵ E. Nobel,⁶ Abt and Feingold,⁷ Kegel and Gasul,⁸ Baar and Hass, Blumenthal and Nassau,¹⁰ E. Urbanitzky¹¹ have reported series of cases and the results obtained.

CHART I

	Number of cases	Per cent Negative
Kegel and Gasul.....	47	55.3
Blumenthal and Nassau.....	157	65
Siegl and Hassmann.....	33	91
Baar and Benedict.....	110	67.7
Abt and Feingold.....	62	70.9
Urbanitzky.....	93	81
Lowenstein.....	500	68
Baar and Grabenhofer.....	203	67
Baar and Grabenhofer.....	203	75
Lowy.....	500	68
Artusi and Migliori.....	57	32

Examination of the figures given in Chart No. I reveals that the immunity produced by the use of Lowenstein's ointment varies from 55 to 80 per cent depending upon the time elapsing between the application of the ointment and the giving of the Schick test, as well as the size of the dose and number of applications.

In this group as a whole, 70.5 per cent were immunized, a figure which compares very favorably with the results obtained by the use of either toxin-antitoxin or toxoid.

The generally accepted theory is that a negative Schick test shows that a patient has about 1/30 unit or more of diphtheria antitoxin in 1 c.c. of blood serum. Lowenstein and many other investigators, however, feel that a negative Schick reaction does not always mean complete immunity to diphtheria.

To further evaluate the usefulness of the percutaneous method of immunization, studies have been carried on by Baecher and Loewenstein. Their results show that following the application of Lowenstein's ointment a definite increase in antitoxin content of the blood results. The quantity varies from 1/20 to 1 unit per cubic centimeter.

Encouraged by the published results concerning the use of Loewenstein's ointment, an investigation is being carried on at The Children's Hospital of Michigan Convalescent Home at Farmington, Michigan. At this institution the children remain for long periods of time, making it possible to complete an investigation of this type.

All patients immediately upon admission to the City Hospital are Dick and Schick

tested before being transferred to Farmington. As soon as they are transferred to Farmington, all Schick positive individuals receive five doses of Lowenstein's ointment at intervals of two days. Once a month all patients having a positive Schick reaction are retested. If at the end of six months the reaction is still positive a second course of ointment is given. Likewise all positive Dick reactions are given five applications of scarlet fever toxin ointment. This work will be reported in the near future.

Method of Application of Lowenstein's Ointment.—The patient's back was washed with soap and water, dried thoroughly and then sponged with seventy per cent alcohol. After wiping off the excess alcohol, the back was allowed to dry before applying the material. The contents of one tube of ointment was applied to the cleansed surface and thoroughly massaged into the tissues by the hands. A rubber glove was worn by the nurse to facilitate the work and prevent any loss of material by absorption into her own hands.

Sufficient time has elapsed following treatment to make a preliminary report covering the past year. The cases have been divided into two groups designated as Series A and B.

CHART II

<i>Series A</i>	
Total number treated.....	58
Total number Schick negative.....	41
Per cent Schick negative.....	70 per cent

Series A consists of fifty-eight children who were Schick positive before being immunized. After six months forty-one or 70 per cent had become Schick negative.

CHART III

<i>Series B</i>	
Total number treated.....	54
Total number Schick negative.....	47
Per cent Schick negative.....	87 per cent

Series B consists of fifty-four children (age one to ten years) who were not Schick tested before being treated. After six months forty-seven, or 87 per cent, were Schick negative.

To determine the rapidity with which immunity develops tests were made at monthly intervals following the application of the ointment.

CHART IV

Series A		58 Cases	Per cent
16	Negative	1 Month	27.6
23	Negative	2 Months	39.3
31	Negative	3 Months	53.4
33	Negative	4 Months	56.9
35	Negative	5 Months	60.0
41	Negative	6 Months	70.0

Chart IV shows the number of children negative at the expiration of one to six months following treatment and the corresponding percentages.

CHART V

Series C	
Total number treated.....	57
Total number Schick negative.....	47
Per cent Schick negative.....	82.4 per cent

Series C is made up of a group of children (age one to three years) who were Schick positive before being treated.

These children received five applications of ointment with an interval of five days between doses.

In this series forty-seven or 82.4 per cent were Schick negative after six months.

Combining the three series (A, B, and C) a total of 169 children were treated and after six months 133 or 78.7 per cent were Schick negative.

The results obtained in the three series compare very favorably with the results reported following the use of toxin-antitoxin and toxoid.

From a survey of the literature covering this method of immunization and the results obtained to date in this study further investigation is warranted.

A more widespread use of this method of immunization seems justified for several reasons.

1. It is a simple, safe, practical and expedient method.

2. The results compare favorably with other methods in use.

3. Protein sensitization is avoided.

4. The danger of free toxin entering the system is eliminated.

5. Constitutional reactions are avoided.

6. The psychic element of hypodermic medication is eliminated.

The writer wishes to acknowledge his indebtedness to Dr. Thomas B. Cooley for his valuable advice and aid in the preparation of this paper; to Dr. E. A. Sharpe, Director of Experimental Medicine, Parke, Davis & Company, who furnished the material, and to Miss M. A. Rogers, Superintendent, and Miss A. Lienemann, Assistant Superintendent, of The Children's Hospital of Michigan, as well as the nursing staff, through whose coöperation this study was made possible.

749 DAVID WHITNEY BUILDING.

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CHEMOTHERAPY OF AMEBIASIS

Evidence presented by Chauncey D. Leake, San Francisco, indicates little hopefulness of finding an ideal agent among the kurchi or ipecac alkaloids, since the former seem too ineffective and the latter too dangerous in effective doses. Insufficient data are at hand to evaluate properly the place of the alkyl resorcinols in the therapy of amebiasis, but they deserve full investigation. As a result of their clinical success, bismuth salts also merit attention. Even a hurried experimental survey of the halogenated oxyquinolines indicates that at least one other compound in this group (iodochloroxyquinoline, or Vioform, N. N. R.) is likely to prove much better in amebiasis than the only one of the series so far attracting attention (sodium iodoxyquinoline sulfonate, or Chiniofon, N. N. R.). Indeed, vioform

is the most efficient drug of any type examined so far in monkey amebiasis, and there is no indication of toxicity in its therapeutic range. Likewise, among the organic arsenicals it is obvious that experimental search already reveals compounds of this type better than the only one in the group (acetarsone) so far awarded clinical consideration. Indeed, controlled clinical trial of 4-carbamino-phenyl-arsonic acid ("Carbarsone"), based on fair preliminary experimental data, indicates its superiority to any amebicide in ordinary use, especially in its marked effectiveness in nontoxic doses. In comparison with other chemical types of amebicides, the organic arsenicals are significant in manifesting a general "tonic" effect, difficult to evaluate experimentally, but clearly evidenced clinically. But they may exhibit toxic effects which make it expedient to employ them cautiously.—*Journal A. M. A.*

A NEW METHOD OF SKIN GRAFTING*

C. V. RUSSELL, M.D.

LANSING, MICHIGAN

Methods of skin grafting have not changed in nearly half a century. A great industrialist has said that any method which has not changed in 20 years is obsolete and can be done a better way. More important than the method of skin grafting is the time of doing it, that is, when the defect is ripe to receive grafts. Results of skin grafting are unsatisfactory not so much because surgeons cannot recognize the proper time, but because they procrastinate, join the Manyana club, in view of the vexing half hour, of doing it with present methods. I plead guilty to the implication myself; therefore, a simpler method is greatly to be desired.

You may at first think it preposterous to offer a method which employs no surgical instruments and, instead of placing 20 or 30 grafts, places many hundreds in much less time; a method which requires no anesthetic and which leaves no scar on the part from which the grafts are taken, making homo-grafts from the forearm feasible in most cases.

I wish this paper to make a record for brevity, but before going on to the method, which will require but a moment, I want to call attention to a widely accepted fallacy, namely, that the outer layers of cells just below the surface of the skin will not grow as grafts. A moment's consideration establishes the epithelial cell as the hardiest cell of the body. Carrel, I believe, has seen them

grow in nutrient media and John Woodbury at Roosevelt hospital, many years ago, grafted parings from corns on varicose ulcers with spectacular success.

In conclusion, the method, as most of you have by now surmised, is to use an abrasive surface. The homely, medium coarse sand paper of the carpenter does very well. It may be dry, sterilized and rolled into a cylinder. With the prepared forearm held adjacent, as it may be, to any part of the body, the cylinder of sandpaper is quickly scuffed across the forearm causing the fine fragments of skin cells to be implanted on the defect, like salt from a shaker. At the malpighian level, a burning sensation is produced and the cylinder is advanced. The dressing of the grafted surface will vary with the surgeon. We favor compression with gauze, using perforated cellophane directly over the grafts.

*Read before the Surgical Section of the Michigan State Medical Society at the 112th Annual Meeting at Kalamazoo, September 15, 1932.

RECENT FACTS ON TRANSMISSION OF TUBERCULOSIS

J. Arthur Myers, Minneapolis, deprecates the fact that students of medicine and nursing are being left with the impression that it is a good thing to come in contact with patients suffering from tuberculosis and receive just the right dose to give them a positive tuberculin reaction. Under such conditions the dosage is entirely uncontrolled. The number of bacilli which the student's body receives from contact with tuberculous patients may vary from a few to huge numbers. Where careful observations have been made in this country, it has been shown that approximately 30 per cent of the probationers in schools of nursing react positively to the tuberculin test but, after they have taken tuberculosis services, from 80 to 100 per cent have been found to react positively. Since a positive reaction indicates an allergic state and since there is reason to believe that the destructive phase of tuberculosis is brought about by the allergic reaction, it would seem obvious that nothing but harm has been done by allowing students to take unmeasured doses of tubercle bacilli

into their bodies and develop a state of allergy. But what immediate evidence is there that allergy is dangerous to the students? The best evidence is that from 5 to 12 per cent of student nurses have presented themselves with tuberculous disease that required treatment soon after allergy was manifested by a positive tuberculin reaction. Pleurisy with effusion is looked on as one of the early manifestations of tuberculosis. In itself, it is an allergic reaction. Many patients are desperately ill from it over a considerable period of time. Abundant clinical experience has taught that pleurisy with effusion is frequently followed by pulmonary tuberculosis of the destructive type. Therefore, in the light of such evidence, who will dare state that an allergic reaction, as manifested by the tuberculin test and brought about by exposure to human beings suffering from tuberculosis is of benefit to a student? The author desires to leave the answer to the reader and to the students themselves as to whether exposure of students to tuberculous patients should be allowed to continue or whether it should be prevented by the adoption of an adequate contagious technic.—*Journal A. M. A.*

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

PSITTACOSIS

A fatal case of psittacosis was reported from Coloma in September. A family purchased a pair of parrakeets from an itinerant peddler who stated that the birds were raised in California. One of the birds died the day following its purchase. About three weeks later a member of the family became ill, and a diagnosis of psittacosis was made. The other bird appeared well, but after the death of the patient it was killed. Organs taken from the body of this bird were ground and injected into mice which developed typical psittacosis lesions.

A number of cases of the disease have occurred in other states recently and have been reported to the U. S. Public Health Service. Consequently, revised interstate quarantine regulations have been issued by the U. S. Public Health Service, which provide that no birds of the parrot family shall be shipped in interstate commerce except those accompanied by a "certificate from the state health authority to the effect that to the best of the knowledge and belief of such authority such bird as may be offered for shipment has originated from an aviary, or other distributing establishment, free from psittacosis infection."

The Michigan Department of Health will require all dealers handling birds of this kind to keep an accurate record of all birds purchased, with the details of where purchased and from whom and the date; also to keep an accurate record of all birds sold, to whom sold, name, address, and date of sale. This requirement is to provide for the possibility of tracing any birds concerning which there may be any question of psittacosis.

IMMUNIZATION IN STATE INSTITUTIONS

On recommendation of the Michigan Department of Health to the Department of Welfare, a number of the state institutions are now immunizing inmates and employees against typhoid, diphtheria and smallpox. Some of the institutions had already made it a practice to protect inmates and employees

against one or more of these diseases. It is the present recommendation that all institutions do so.

Recently the Traverse City State Hospital completed immunization against typhoid and Schick testing and immunizing of positives for diphtheria. Smallpox vaccinations have already been taken care of. Likewise, the Pontiac State Hospital is busy immunizing, and other institutions are preparing to do so.

COMMUNICABLE DISEASE NOTES

On the whole the communicable disease situation for this season of the year is quite favorable. The downward trend of diphtheria continues and the incidence has established a new low level.

Scarlet fever continues high, being a little above the normal for this time of the year.

Whooping cough remains fairly high, being a little lower than it was earlier in the season but a little higher than the five year mean.

Poliomyelitis is considerably below the usual incidence. The outbreak of this disease last year was the most severe in the history of Michigan. Convalescent serum has been furnished by the Michigan Commission on Infantile Paralysis for the few cases this season.

Measles has about reached the minimum following the high peak of early summer. The year will probably show the greatest number of cases ever reported as the total has now about reached that of the record year 1926.

Typhoid fever incidence has been very high this year. There have been several local outbreaks. It is now declining.

C. D. B.

LABORATORY NOTES

Twelve laboratories in the Upper Peninsula were visited during the month of September in the interest of standardizing their methods of procedure.

Seven students from Michigan State College and one from the University of Michigan are in training in the Department laboratories in Lansing, doing routine public health laboratory work.

CHILD HYGIENE

Two new series of women's classes have been started in Berrien and Sanilac counties with an enrollment of 2,709.

Child care classes are being conducted in Presque Isle, Cheboygan, Ogemaw, Iosco, Baraga and Houghton counties with an attendance of 3,917.

Bertha Wellington, who replaced Helen Linn on the staff as nutritionist, is working in Jackson county with mothers of young

infants. She will continue this work until she begins her work with the women's classes in Livingston and Oakland counties in November.

During the month of September representatives of the Bureau of Child Hygiene and Public Health Nursing made 46 visits to prospective mothers, 23 postnatal visits, 75 visits of instruction in infant care and 26 visits in the care of the pre-school child. There were 180 visits made to infants under six months of age in connection with breast feeding campaigns. Letters to prospective mothers totalled 3,424, and 6,859 certificates of registration of birth were distributed to parents.

DEVELOPMENTS IN THE PROBLEM OF ARTHRITIS

In his review of this subject, RALPH PEMBERTON, Philadelphia (*Journal A. M. A.*, Jan. 3, 1931), stresses the fact that attacking this problem with any drug or any vaccine alone is too often like firing at the head above the ramparts instead of at the fortification itself. In the opinion of most of the American committee for the control of this disease, it is of the first importance to envisage the disease as a whole instead of focusing on any factor, be it mechanical, bacteriologic or nutritional, which may merely precipitate it. In arthritis a variety of factors contributes to bring about the disease. No agency or organism is recognized by the American Committee for the Control of Rheumatism as the single cause of it, and no drug, vaccine or any single form of therapy can alter the hereditary or constitutional make-up, the faulty anatomy or physiology of the intestinal tract or the deranged metabolism secondary to the disease, perhaps sometimes underlying it. There is probably no other consideration before the medical profession more important in terms of persons now living than that of seeing this problem whole. Even irregular practitioners are now beginning to treat these sufferers with a breadth of view which some of the leaders of medicine do not entertain. The medical profession as a whole is not much more immune from prejudice of single-minded enthusiasm than are those who constitute it. Is it to allow to be repeated here the experience in the field of physical therapy in which the layman and the quack, almost alone, kept alive therapeutic principles rediscovered fifty years later by orthodox medicine? The problem of arthritis is unrolling and developing before the eyes of the medical profession. Should not physicians highly resolve to catch up with and keep abreast of this evolution and extend its fine possibilities to the hosts of arthritic patients in this country? It is of importance to learn more concerning this protean disease, but it is even more important for the generations now living that the profession learn more of what is already known about it. Orthopedic surgeons have gone awild in the past to atone for much neglect and mismanagement on the part of others. Their help may be equally necessary in the better mapped and brighter future.

CLINICAL STUDY OF ASCARIASIS

A. E. Keller, Horton Casparis and W. S. Leathers, Nashville, Tenn., studied the clinical conditions found in 107 cases of ascariasis in white children and in 60 cases in Negro children, with 54 white controls and 69 Negro controls. A history of disturbed sleep was obtained in 60 per cent of the cases in white children and in only 15 per cent of the white controls, while in only 20 per cent of the Negro patients and 22 per cent of the Negro controls was this complaint present. Abdominal discomfort was present in 70 per cent of the white patients and in only 7.4 per cent of the white controls. It was present in 60 per cent of the Negro patients and 30 per cent of the Negro controls. The physical conditions were those which can be demonstrated in any average group of rural children. Protuberance of the abdomen was present in 60 per cent of the white patients and in 22.2 per cent of the white controls. It was present in 33.3 per cent of the Negro patients and in 23.3 per cent of the Negro controls. There were no significant changes in the total red blood cell counts, hemoglobin or total leukocyte counts in the cases and controls as groups. The differential leukocyte counts revealed an average eosinophilia of 8.9 per cent for the white patients and 5.3 per cent for the Negro patients. Both white and Negro controls had eosinophil counts which varied from zero to 10.5 per cent. The average eosinophil count, however, for both control groups was 2.9 per cent, which is considered normal. The eosinophilia does not appear constantly in cases of ascariasis, 16 per cent of the white patients and 31.6 per cent of the Negro patients showing an eosinophil count of 3 per cent or less. No definite correlation between eosinophilia and the intensity of infestation could be demonstrated. No correlation between the age of the patient and eosinophilia could be shown. This analysis presents few observations on which a clinical diagnosis of ascariasis may be based. The parasite causes abdominal discomfort and disturbed sleep. That the parasite causes some disturbance in the host is seen by the presence of eosinophilia. The negative clinical observations that are presented emphasize the importance of the routine examination of feces in a diagnosis of ascariasis.—*Journal A. M. A.*

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Michigan State Medical Society

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December, 1932

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon

EDITORIAL

THE SEASON'S GREETINGS

This number of the Journal marks the close of 1932. It goes out conveying the season's greetings of the President, President-Elect, the Council, Publication Committee, Secretary of the Michigan State Medical Society and the Editor.

The year which began with apprehension is about at an end. It has been a year of progressive retrenchment, of tightening the belt for many, perhaps the most of us. However, we are heroically learning the les-

son that happiness and satisfaction, if we are to attain them, do not consist entirely in material things. We still retain those friendships without which life would be very barren. The editor has welcomed the opportunity of the month to month contact with the members of the society through these pages and appreciates the numerous expressions of commendation both oral and written that have come to him.

The aim of the Journal is to unite the membership of the society in a common cause. Never before in the history of Michigan medicine or in the thirty years of this Journal's existence, has the profession been so beset with external factors which threaten our very existence to serve the public. What these influences are it is not necessary to repeat; they are only too keenly felt by all.

The Journal is the organ of the Society as a whole, containing, as occasion makes possible, the deliberations of the President, the House of Delegates, the Council and the Executive. All are giving the problems of the profession the most thoughtful consideration. The editorial department contains discussions on subjects we hope are of timely importance. An endeavor is made from month to month to publish papers of scientific interest which contain valuable and up-to-date information on the subjects chosen by the various writers.

The medical society provides a protective feature under the direction of the Medico-Legal Committee which no one in the active practice of his profession can afford to be without for one moment. Only a short time ago the editor met an old acquaintance who was not a reader of this Journal (there are many such among us). He said he could not afford it as the society dues in his county amounted to twelve dollars. He knew he was taking chances but he couldn't help it. Under the advice of the Medico-Legal Committee the members have been urged not to let their membership lapse. But of course the warning does not reach those who are not members and do not take the Journal, hence the importance for those who are members to see that every eligible physician is prevailed upon to become a member of his county society. There are no more important organizations for a professional man than the societies that minister to his professional needs. He requires that protection which is afforded by a united sym-

thetic professional group whether he be a physician or dentist or lawyer. In his practice he is kept from pursuing fads in medicine and stimulated by the *esprit de corps* of his associates.

RAY C. STONE, M.D.

The relinquishment of life by Ray C. Stone, M.D., of Battle Creek, creates a loss to our state profession that is regrettable and difficult to compensate. A Councilor for



RAY C. STONE, M.D.

nine years, Chairman of the Council for four years, an ex-president, a surgeon of high standing, a character of sterling quality, a contributor to human and community advancement, Dr. Stone exemplified a life and a labor that inspired admiration and evoked respect. He gave of self to develop and uphold our honored traditions. He served his community and his fellow physicians sincerely, honorably and unselfishly. He achieved for the good of all. He contributed to a large degree to make possible the observation and application of all our medical principles and standards. His departure creates a distinct loss.

For many years to come we shall benefit by reason of his life and labors. He will be missed in our councils and in our activities.

We shall ever honor his memory. We shall be long in forgetting the wholesome influences he exercised. We retain for all time in our archives his faithfulness to his profession and its ideals.

Shall we not remember at this time: "Wherefore for us when real men die, shall be no mournful graveward glance. Our souls with theirs invade the sky, and to immortal strifes advance. For great is our inheritance when real men die." And so, Ray, hail and farewell! Your sun of life has set as sets the morning star which goes not down in a darkened west, but fades away in the glorious light of Heaven!

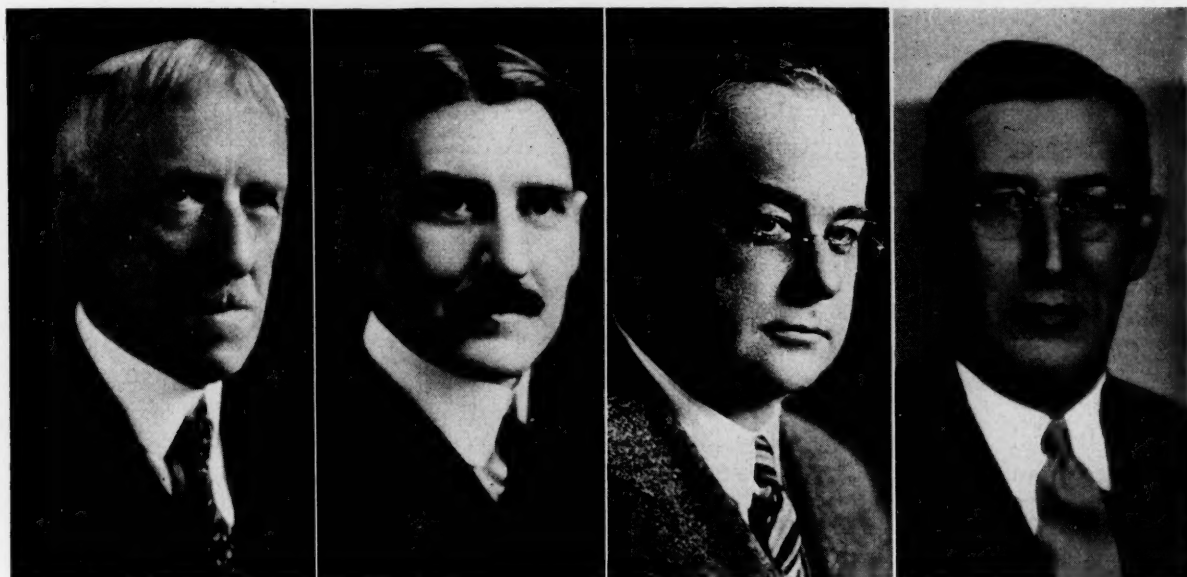
F.C.W.

THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY

This JOURNAL is three decades old. Thirty years, thirty times twelve, three hundred and sixty numbers of this JOURNAL have gone forth to the members of the Medical Society. When the first number, Volume I, appeared, many now practising were yet unborn; some were in swaddling clothes and many physicians then in their prime long since have been gathered to their fathers. Up to and including 1901, the various papers read before the annual meeting of the Michigan State Medical Society were published in the form of a volume of transactions. The volume for 1900 including membership lists made up 546 pages single column. In the month of September, 1902, Volume I, No. 1, of this JOURNAL appeared. The page of two columns was 6x9 inches. The increase in size of the JOURNAL is a fair indication of the growth in members of the Michigan State Medical Society. Volume 30, that is the complete volume for 1931, contained 980 pages, 10½x7½ inches. The second volume (1903), which was the first complete yearly volume, contained 635 pages. The editor was Dr. Andrew P. Bidle of Detroit, and the business manager Dr. S. Edward Sanderson, likewise of Wayne County. The JOURNAL made its bow with this statement: "It is unnecessary to enumerate the many advantages of a monthly JOURNAL over the annual transactions for a place of record of the doings of the Society. One of the principal ones, however, will be the opportunity it affords

to the officers of the Society to come into more intimate and frequent touch with the members, and to the members to present their views, for we wish it understood that we invite to its columns all honestly expressed opinions. . . . We enter the field of

additional reasons for the existence of a state medical journal in this state. Whether he doubted the usefulness of such an institution or not, in his editorial of October, 1903, he speaks of having written a number of prominent medical editors in the United



Dr. Andrew P. Biddle
Editor, 1902-1906

Dr. Benjamin R. Schenck
(1872-1920)
Editor, 1906-1910

Dr. Wilfrid Haughey
Editor, 1910-1912

Dr. F. C. Warnshuis
Editor, 1912-1927

FORMER EDITORS, JOURNAL MICHIGAN STATE MEDICAL SOCIETY

journalism simply as a better ground to plant the seeds of common interests and to reap the benefit of closer acquaintance. We enter with no feeling of rivalry nor competition and to those journals already here which have in the past graciously recorded the doings of the Society we express our sincere wishes for their continued success."

At the time, Dr. Leartus Connor was President of the Michigan State Medical Society and the opening articles of the September and October JOURNAL, 1902, consist of Dr. Connor's President's Address. The subject was "The Michigan Medical Society—Its First Eighty-Three Years, Present Wants and Suggestions for Their Supply." Many of the contributors to the first volume have since passed to their reward, but a number of them, namely Dr. Angus McLean, Dr. John E. Clark, Dr. Walter R. Parker, Dr. Irving H. Neff, Dr. George Dock, Dr. Richard R. Smith and Dr. W. H. Haughey, are very much alive and engaged in the active practice of their profession.

About a year later the editor indulges in

States to ascertain their views as to the usefulness of the state journal. The consensus of opinion was that "there is a distinct field for medical society journalism." And in general agreement such a journal should publish the transactions of the state and the affiliated local societies. The conclusion was that more than half the education of a physician was derived from association with his colleagues. One function of the JOURNAL, therefore, was to preserve scientific papers read at the meeting for permanent record and perusal at leisure; the JOURNAL should keep the profession of the state fully informed as to the doings of boards of health, boards of examiners, state institutions and all other medical or semi-medical institutions of the state. Secretaries of the various county societies were to constitute a reportorial staff for the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY.

Evidently the kidney constituted a very large subject of investigation at the opening of the century. In the first number of the JOURNAL practically all papers presented are

on some phase of kidney disease. The subjects as a whole are rather broad in their scope as compared with the treatment of the same subject today. For example, Volume 1, No. 1, contained the following subjects, Etiology of Kidney Disease, Diagnosis of Diseases of the Kidney, Uremic Complications to Diseases of the Kidneys, The Cerebral Complications of Kidney Disease, the Treatment of Diseases of the Kidney. The following number of the JOURNAL contains five papers out of eight on some phase of kidney disease.

Dr. Biddle became a member of the Michigan State Medical Society in 1894. He has maintained his interest in the Society right up to the present time. Dr. Biddle is a dermatologist. He is a graduate of the Detroit College of Medicine. He was general secretary of the Michigan State Medical Society from 1900 to 1906 and was the first editor, as stated, from 1902 to 1906. Dr. Biddle was President of the Michigan State Medical Society 1916-18. He was succeeded by the late Dr. Benjamin R. Schenck, a graduate of Johns Hopkins University, who limited his practice to obstetrics and gynecology. Dr. Schenck was secretary-editor of the Society until 1910, when owing to ill health he was compelled to retire both from practice and from the editorship of the Journal. He went west, where he died of tuberculosis. Dr. Schenck was succeeded by Dr. Wilfrid Haughey of Battle Creek, who was secretary-editor 1910-12. Dr. Haughey graduated from the University of Michigan A.B. in 1904, M.A. University of Detroit, and M.D. Detroit College of Medicine 1906. He was succeeded by Dr. F. C. Warnshuis, who held the position as secretary-editor until the joint office was separated in 1927, since which time he has acted as secretary and as business manager of the Journal. Dr. Warnshuis it is seen was editor for a period over twice as long as any other person who has held the position. In this number of the Journal will be found timely letters from the surviving former editors.

The JOURNAL was at one time printed by the American Medical Association. About the year 1914 it was printed in Grand Rapids, where it continued to be printed until three years ago, when the contract for printing was given to the J. R. Bruce Publishing Company of St. Paul, Minnesota, whose im-

print the Journal bears at the present time. The advertisement income, which was about \$1,800 twenty years ago, has been increased to a yearly average of \$8,000. The JOURNAL has to within recent months shown a profit, which has been turned over to the Society's reserve fund. The chief source of revenue of any publication is its advertising pages. A concerted determination on the part of members of the Society to patronize those firms who advertise in the JOURNAL would not only help the advertiser in disposing of his product but also the doctor, inasmuch as the commodity advertised is of dependable quality. And imagine what it would mean to the JOURNAL. The JOURNAL is published under the direction of the Council of the Society, from whom a publication committee is selected for the immediate enunciation of the editorial policy.

The preparation of the JOURNAL each month has demanded unremitting care and effort on the part of the editors, on whom has devolved the work of selecting papers—often, particularly in the earlier years, endeavoring to provide them when they were none too plentiful—of reading and editing typewritten copy, revising proofs, of writing editorials and chronicling worthwhile events, as well as the deliberations of the Council and House of Delegates, all a task more or less arduous when it is considered that to each of these men editing the JOURNAL was an avocation carried on along with his daily professional duties. In addition the editor must be a lover of good reading matter even on subjects which might seem but remotely related to the practice of medicine, for he must cultivate and maintain a literary style, as important to him as the daily practice of music to a musician or the disciplining which approximates perfection in any other human venture.

Dear Doctor Dempster:

Complying with your letter request for a brief comment on the occasion of the Journal's 30th Anniversary I would be remiss did I fail to first congratulate you and the Society upon having such an excellent publication. Our Journal is in each issue a credit to the Society and its Editor.

To me the Journal has always been our "House Organ." It is published primarily for the benefit of every member. It is our medium for disseminating scientific infor-

mation and according professional assistance. Next it initiates and comments upon essential policies and principles in accordance with the actions of the House of Delegates and the Council. It thus seeks to inspire and maintain organizational unity and action. Editorially it imparts medical and economic problems and indicates their influence and effect upon the practice and services of the members. Further, the Journal serves as a medium of historical record and Society progress through the publication of minutes, committee reports and other organizational activity. Lastly it records outstanding events and achievements on the part of component units and members. All these and other features cause our Journal to be a most valuable feature of membership.

Our Journal is limited in extending these features by financial restrictions. The prorated portion of our annual dues defrays but half of the annual publication costs. The balance is obtained through advertising income. Were it not for this annual income it would be necessary to fix a subscription price of \$7.00 and increase membership dues \$5.00 per year. Advertising income is dependent upon the advertiser's return upon his advertising investment. The Journal income could and would be increased and a bigger, more inclusive publication would be made possible if our members would give preference to our advertisers in their business dealings. Hence it rests with the membership whether our Journal shall be enlarged to embrace the wider fields of medical journalism and become still more valuable to every member, or if by reason of membership disinterest in our advertisers the Journal shall be restrained to its present scope.

With the Society's national reputation for achievement it is not too much to expect, casting aside a mere wish, that these ends will be a near future attainment. May we all achieve to secure that realization. Doing so will cause us to profit and have still greater pride in our Journal.

F. C. WARNSHUIS.

October 27, 1932.

Dear Doctor Dempster:

In reply to your request that I make a few comments on the problems and condi-

tions which confronted us as the first Editor of the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY as compared with those which confront you today, I am glad to do so.

You, as Editor, will understand that these problems are manifold. It is not only the physical labor of garnishing the work of others for presentation in an orderly manner but the more serious matter of interpreting and voicing the consensus of opinion of the profession; of adding your force and voice to the advancement of medical science and art; of ever upholding and conserving the dignity of the profession; of guiding it in its relation to its own membership, its patients and the public; of watching and fostering organized medicine; of helping to safeguard medical practice acts by constant vigilance and willingness to appear before legislative committees and bodies. These problems you have to meet today as we did thirty years ago.

As you will recall, the problems which confronted us as we entered into our first publication concerned the re-organization of all State Medical Associations along the lines of the County Medical Society as a unit as propounded by the American Medical Association; which re-organization has strongly united the whole profession, strengthened it not only within itself but before the bar of American public opinion.

Coincident with this have been the advancement of medical education; the elimination of unworthy medical schools; the placing of medical education and the hospital under the watchfulness and guiding hand of the whole profession as represented in the membership of the American Medical Association.

The almost unbelievable advances in medicine, surgery and the specialties, as familiar to you as to all of us, but renders your task of discrimination the harder. We drove with the horse and buggy, usually leisurely, though sometimes the horse balked. You drive the automobile with its vast power, usually at high speed, never without its danger.

But beyond this you have the task of interpreting the meaning of the present day social unrest, which cannot but affect the historic relationship of the physician to his patient, of the patient to the hospital in the cost of medical care.

Thirty years ago we were engaged in the building of the profession into a whole; you, today, must be alive in the support of this structure, in strengthening it lest it becomes less cohesive and crumbles. To our mind your task will require all the wisdom gained from your own experience and the interpretation of the experiences of others; all your physical and moral strength; for upon you as Editor has been placed a responsibility as heavy if not heavier than that which confronted the Editor of yesterday.

ANDREW T. BIDDLE.

November 1, 1932.

Dear Doctor Dempster:

I thank you for your invitation to say something to the Medical Profession of Michigan through the Journal. During the years when I was Editor that task came regularly and did not cause me as much thought, probably, as it does now.

There is only one thing to which I wish to draw particular attention. I believe there is a very great need now, and has been for a number of years, of a course in our medical schools teaching the young man how to run his office; how to meet and handle his patients, the value of his services and how to get it.

I think this course should be in the nature of a lecture course conducted by lectures from successful practitioners throughout the state rather than by members of the faculty. I think there is a distinct need for something of this nature.

I am pleased with the journal as it has developed and I am glad to have had something to do with its development. I wish to take this opportunity to thank the profession for having granted me that opportunity.

WILFRED HAUGHEY.

November 2, 1932.

THE COMMITTEE ON THE COST OF MEDICAL CARE PRESENTS FINAL REPORT

On November 30, 1932, appeared the final report (publication No. 28) of the Committee on the Cost of Medical Care for the American people. It bears the imprint of the University of Chicago Press. The Committee on the Cost of Medical Care

was, as is well known, inaugurated in the spring of 1926. The personnel consisted of representatives from private practice, including fourteen medical doctors and two dentists; institutions and medical interests were represented by six medical doctors, two Doctors of Philosophy, two registered nurses and one pharmacist; public health was represented by four physicians, one Doctor of Public Health and one layman; the social sciences by six Doctors of Philosophy; the public by five laymen and one Doctor of Science, one Doctor of Laws and one Doctor of Philosophy. After five years, during which time twenty-seven brochures on different phases of the work have appeared, we have the final report, which appears to be fairly exhaustive. The time before going to press does not permit an analysis of the contents of this report, which we hope to present in the January Number of this Journal. In the meantime, however, we give here the recommendations of the *Committee* and also recommendations of the *minority group*. Supporting the minority group are seven medical doctors, members of the Committee, the two dentist members, one Ph.D. and one layman.

RECOMMENDATIONS OF THE COMMITTEE

I

The Committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists, and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home, office and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

II

The Committee recommends the extension of all basic public health services—whether provided by governmental or non-governmental agencies—so that they will be available to the entire population according to its needs. This extension requires primarily increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only upon professional and administrative competence.

III

The Committee recommends that the costs of medical care be placed on a group payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual fee basis for those who prefer the present method. Cash benefits, i.e., compensation for wage-loss due to illness, if and when provided, should be separate and distinct from medical services.

IV

The Committee recommends that the study, evaluation, and coordination of medical service be con-

desired important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

V

The Committee makes the following recommendations in the field of professional education: (A) That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease; that more effective effort be made to provide trained health officers; that the social aspects of medical practice be given greater attention; that specialties be restricted to those specially qualified; and that postgraduate educational opportunities be increased; (B) that dental students be given a broader educational background; (C) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (D) that nursing education be thoroughly remoulded to provide well-educated and well qualified registered nurses; (E) that less thoroughly trained but competent nursing aides and attendants be provided; (F) that adequate training for nurse-midwives be provided; and (G) that opportunities be offered for the systematic training of hospital and clinic administrators.

RECOMMENDATIONS OF THE MINORITY GROUP

I

The minority recommends that government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and of those patients with diseases which can be cared for only in governmental institutions; (b) to the promotion of public health; (c) to the support of the medical departments of the Army and Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (d) to the care of veterans suffering from bona fide service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

II

The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

III

The minority joins with the Committee in recommending that the study, evaluation, and coördination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coördination of rural with urban services receive special attention.

IV

The minority recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

V

The minority recommends that the corporate practice of medicine financed through intermediary agencies be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

VI

The minority recommends that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice.

VII

The minority recommends the development by state or county medical societies of plans for medical care.

THE NOVEMBER JOURNAL

The November number of this Journal is probably the most expensive to publish of any single number during the year. The reason is apparent. This number contains, among other things, the stenographic report of the proceedings of the House of Delegates at the Annual Meeting in September. The Council of the Society have each year gone to considerable expense as well as pains to present an accurate report of the discussions of the chief deliberative body of the Society. Everything that has taken place in the House of Delegates is reported. It is hoped that each member will read these pages very carefully for his own edification and instruction. The annual report of the council as well as the addresses of the President, President-elect are to be found in the November Journal. If you wish to know what your representatives in the State Medical Society have done and how carefully and conscientiously the council and President of the Society are serving you, the best account in existence will be found on pages 724 to 763. Of the utmost interest likewise is the address on The Service of the Profession by Dr. Olin West, Secretary and General Manager of the Journal of the American Medical Association. Many of us heard Dr. West deliver this address, not all, however. Those who have not heard the address will do well to read it since it vitally concerns the social life of every practitioner of medicine.

The November number contains also an excellent array of scientific papers that should appeal to our members along the lines of some special interest. Re-read the November number of this Journal.

HEREDITY

*My ancestors lie buried on a hill
High and green, and they lie in rows
Tucked in under the waving grass.
Why don't they stay there? Goodness knows!
But they steal behind me, their fingers poke
Into my business. What they want goes.
Aunt Maria she liked to scrimp,
Uncle Abner he liked to pray,
Fussy old Jonathan Pettiboe—
All of them try to boss the way
I live my life—Well, it can't be gay.*

*How can I call my life my own
When the scheming dead try to live through me?
How can I know what I really am
With their wishes hounding me greedily?
Though I think them dead, they're not, they live—
Parasites having their way with me.*

MEDICAL ECONOMICS

MEDICINE IN A CHANGING AGE

J. C. S. BATTLEY, M.D.

PORT HURON, MICHIGAN

There is little doubt that the practice of medicine is being profoundly affected by the present economic depression. This is evidenced not only by a diminution in work and income but also by the fact that new types of medical practice have received a considerable impetus. More attention than ever before is being shown these movements in the editorial columns of the medical journals. It is not that they are an entirely new thing but that like a cancer an insidious growth in the economy of medicine has made itself apparent. More than one of our civilized institutions are under fire and may have to fight for their lives during the next decade. Medicine is one of them. Doctor John Lovett Morse, whose long years of outstanding service to the medical profession entitles his opinion to the highest respect, has recently said, "This country is rapidly tending toward state medicine. The federal, state and municipal authorities are continually taking over more and more of the functions of the family physician." State medicine and forms of contract practice are in the ascendancy. In that these things have appeared in European countries it may seem to many that their appearance here is in the long run inevitable.

There is always a tendency for subtle influences to so gradually alter the appearance of things that fundamental changes are consummated almost before one is aware. It is well in a time such as this to cast backward to medicine as it was in the days of our fathers before it became subject to the influence of the commercial atmosphere which today everywhere surrounds us. In my boyhood days, during the waning years of the last and the opening years of the present century, the trinity of minister, physician and lawyer loomed large among the household gods. The doctor, indeed, was in more intimate contact with his patients, and he held their confidence in a proportionately greater degree. He was a friend of the family and of its individual members. In times of need he was a counsellor in matters other than medical. For him the door stood always on the latch. In those days people were imbued with the virtue which marked the Victorian Age, that of taking life seriously, for life was not so easy then as it has been until quite recently.

My own mental picture of a physician was largely shaped by Sir Luke Fildes' painting, "The Doctor." It hung in my mind then as it hangs over my mantel now, the humble cottage, the sick child lying upon the chairs, the motherly despair, the fatherly helplessness, and the doctor the presiding genius of the scene. It typified then as it does now the personal relation between doctor and patient which is the keystone of the medical arch and without which the doctor cannot give the best that is in him. The personal relation of patient to doctor is the Aladdin's lamp from which all the amazing potencies of medicine spring. It is the thing which beautifies the medical life with significance.

It is a far cry from those times to present ones. Many changes have occurred in medical practice. The day of the old time doctor has gone never to return. The modern physician is in no wise his

counterpart. Increase in knowledge has made it impossible for him to handle the whole field of medicine well as did the doctor of past years. The advance in medical science which the last quarter century has witnessed requires some degree of specialization in training and equipment for its application. The physician of to-day, while he may be interested in the whole field of medicine, must follow some special bent if he is to do the best work. The patient of today, instead of expecting one doctor to see him through from the cradle to the grave, must accustom himself to seeking aid from more than one physician. The problem of making the newer knowledge available to the patient and of still maintaining the principle of personal relationship between patient and doctor has taxed the best medical intellect.

The natural evolution in things medical has been complicated by the appearance on the stage of modern business. The tremendous expansion of commercial interests has affected medicine as it has every other pursuit. It was inevitable for medical affairs to become tinged with business methods. This has arisen both on the part of the profession and of the public. The flood has carried both groups along with it and confusion has arisen in which the distinction between a profession and a business has become blurred.

The essential difference between a profession and a business is that the former renders services while the latter sells commodities. While both, it is true, deal in something that satisfies human wants and which economists call a "good," the resemblance ceases here. The purveyor of commodities has no personal relation to the buyer except to receive his money and to deliver him his purchase. More often than not the article bought is made by a third party far in the distance who never comes in contact with the consumer. While it cannot be denied that the integrity of the salesman is an important factor, the quality of the goods he sells usually depends on the price charged for them. Services, on the other hand, are intangible offerings on which a fixed price cannot be set. They are wrapped up in the personality, integrity and training of those who offer them and they depend for their effectiveness on personal relationship. Moreover, the keynote of trade is competition, whereas the keynote of medicine is coöperation. Successful physicians, considered as success should be considered in medicine, never have been those who competed with their fellows for worldly gain. They have been those who helped the sick and furthered the progress of the medical art.

What are the business tendencies that have appeared in medical practice? They may be seen on the part of both patients and doctors. Many persons have come to think of the purchase of medical services as being on a par with the purchase of commodities. They demand an itemized account. They figure their bills for themselves at so much per visit. This confusion between the nature of two entirely different things leads to the deplorable habit of medical shopping and going where the price is lowest. The right of the doctor to set a higher fee for those in better financial circumstances is not recognized so much as it used to be. The patient may even go so far as to refuse to pay if results are not what he thinks they should be. He does not understand that from the nature of disease it is often impossible to receive the satisfaction he desires.

Doctors on their part have been obliged to establish rigid methods for collecting accounts. It is difficult for them to receive a reasonable return for their work when the patient's income is mortgaged for months ahead by time payments for all sorts of things. The notes of the automobile dealer must

be met but the doctor can wait. He has nothing that he can take back nor would he if he could. He is often forced to collect his money. This friction between doctor and patient makes a strange and unsatisfactory ending for what should be a happy relationship. It is difficult to see where these tendencies could have been avoided yet their subtle influence has undoubtedly paved the way for certain commercial ideas in medical practice.

The reflection of a commercial environment is seen in many developments that have taken place in the technic of medical practice. Business has gone into medicine in the establishment of clinics for the care of accidents and illness dependent on industrial occupations. Medicine has gone into business in the development of clinics to make practice more efficient for both doctor and patient and contract medicine has appeared, the purpose of which is primarily that of making profits. Life insurance companies make it their business to promote health and their nurses visit the homes of the insured. Life extension institutes enlist people in their ranks. Clinics of every variety, free and pay, have arisen to minister to human needs. A Chicago store has recently offered a certain type of medical service to the public through its mail order department. Without surveying these agencies in detail it is sufficient to emphasize what every physician knows to be true, that, laudable as many of them may be—and there are many that are not—they constantly encroach on private practice and tend to weaken the all-important bonds between patient and doctor. In addition to this the doctor's income is being lessened by these agencies. Free clinics offer services, often to those who should and could pay, which would otherwise be rendered by the doctor. Because they are free people often do not realize their value. There is a growing desire on the part of the public for free service and a growing concern on the part of physicians as they see their field constantly narrowed.

It will hardly be disputed that the present depression will accelerate changes which are occurring in medical practice. An increasing number of patients are being treated at the public expense and many who are not able to pay are receiving free private attention from doctors. Many of these will not wish to return to a pay basis. It will seem to them that illness over which they have no control should bear no more heavily on one than on another. Indeed, even if they should desire to return to a pay basis it may be difficult to do so. Although unemployment has been acutely felt during the depression, the fact is that it was on the increase during the preceding period of prosperity. Machines are more and more taking over the work of men. Men are more and more having to go through periods of lack of employment until they become adjusted to a new occupation. A certain amount of unemployment may become a permanent characteristic of the United States as it seems to have become in modern England. How are these people to be cared for medically? Is the medical profession to take on more and more charity work? Or are there other solutions? The idea may grow that it would be desirable to have some sort of state administered medicine. Private schemes of contract medicine may make their appearance in increasing numbers with an inevitable element of solicitation and advertising.

What form state medicine would take in the United States is at best entirely nebulous. Owing to differences in location and economic conditions it would be much different from European systems. Certain benefits to be derived may be dimly outlined but it should be said at the outset that prospective advantages always bulk larger than prospective disadvantages. State control of medicine would afford presumably an even distribution of the cost of medi-

cal care over the taxable population. It would result in a more even distribution of physicians than at present obtains. It would assure the placement of young well trained men and an immediate return on the investment made in training them. It would give the doctor welcome freedom from financial worries and relief from the annoyance of collecting accounts. It may be pointed out that the government is assisting more and more in private enterprise. If the supply of doctors should exceed the demand, if men on graduation should find themselves, as many are at present, with no place to go and without money with which to become established, and if doctors should have to accept aid from welfare agencies, as some have had to during the past winter, is it unreasonable to feel that a movement toward state medicine may appear?

In European countries whose civilizations have existed for over a thousand years, conditions may have arisen to make state medicine necessary. Yet it may be stated, without bringing specific arguments, that state control of the private practice of medicine would be an undesirable thing in a pioneer and democratic country. It would be a bureaucratic system not suited to a group that has been a mainstay in American life, nor suited for imposition on people with the spirit of Americans. The rank and file of both doctors and patients would not fit into it. It would be paralyzing to the initiative that makes men enter medicine. It would discourage young men of high ideals from entering. Without doubt it would develop unfortunate political aspects. We may be assured that state medicine will come only when the spirit dwindles out which enabled our fathers to cope with conditions in a new country without sacrificing their beliefs and their traditions.

The only immutable thing in human institutions is change. We may be sure that medicine will change and if changes do not come because of us they will come in spite of us. We must be like the Athenians described in the New Testament, men ever on the alert to see and hear some new thing. The scientific progress of medicine has been sufficient to satisfy the most exacting Greek. It is in the application of medicine to every-day life where we have allowed others to get ahead of us. We must evaluate new developments and solve new difficulties in the spirit of the time-tried traditions of medicine or as an independent group we will perish.

It needs no argument to convince one of the desirability of medical ethics and of the maintenance of the traditions of the profession. What we want to know is how to maintain them. Herein lies the crux of our present trouble. There is only one thing that will undermine our faith in spite of our belief and that is economic disaster. Physicians are being graduated today in the United States far in excess of the need for them. A recent estimate is that their numbers are increasing over the deaths at the rate of about eight hundred a year. On the other hand the field of work is being so narrowed that incomes are being lessened. A point may be reached when acute suffering on the part of physicians may arise. A spirit of cynicism may develop regarding the moralities of medicine. After a man has spent years of time and much money in training it is not likely that he will be content to settle down to an impossible economic situation just to maintain traditions. He will either seek a new occupation or he will listen to the siren song of commercialized medicine.

It is the economic status of physicians which will in the end determine whether we are to have such things as contract practice and state medicine. Perhaps the remedy lies, as has been suggested by Doctor B. T. Beasley, in a reduction in the number of men graduating until the number of pay patients per

doctor reaches a figure commensurate with his economic maintenance. Or perhaps it will have to be recognized that physicians should receive some pay from the community for the immense amount of free service they render. Our economic future lies in our own hands. If we fail, "the fault, dear Brutus, is not in our stars but in ourselves." Whatever is the remedy for our ills it is certain that it lies mainly in our own determination to maintain medicine as the high calling it always has been in this country.

GENERAL NEWS AND ANNOUNCEMENTS

Annual dues for 1933 will be \$8.75.

The Department of Society Activity in this issue contains important reports and comments.

Dr. William A. Hyland, Grand Rapids, is making a good recovery from severe injuries received in an automobile accident.

Dr. William J. Burns, Executive Secretary of the Wayne County Medical Society, addressed the Oakland County Medical Society on November 17 on the subject of "Medical Economics."

President-elect LeFevre, Chairman Corbus, J. D. Bruce, Grover C. Penberthy, C. E. Boys and F. C. Warnshuis were present at the funeral services of Dr. Ray C. Stone in Battle Creek as representatives of the State Society.

Mr. Alexander W. Blain of Detroit, father of Dr. Alexander W. Blain, president-elect of the Wayne County Medical Society, died at his home at the advanced age of ninety-two years. Mr. Blain was a veteran of the civil war.

On page 812 of this issue of the Journal will be found a summary of the recommendations of the Committee on the Cost of Medical Care, the final report and also recommendations of the minority group. It is the editor's intention to analyze this report in the January number of the Journal. We hereby extend an invitation to the members of the Michigan State Medical Society to comment on these recommendations.

The Washtenaw County Medical Society has decided for the coming year to hold meetings under what they call the host plan. County members of the Society have signified their willingness to entertain the County Society to dinner at the monthly meetings, twelve members defraying the expense of the monthly dinner as hosts to the Society each month. The meeting is to be held on the second Tuesday of the month. The speaker for the November meeting was Dr. Norman Miller, who spoke on the subject of "Birth Control."

The Michigan X-ray Society is now an established fact. The first meeting was held at Lansing about the first of November, when plans for organization were discussed. It was decided to hold three meetings a year. The membership consists of all X-rays specialists, including radio-therapists, in the State. The movement has been made to establish a list of associate members which will be composed of doctors who do a large amount of X-ray work but who

do not limit themselves to radiology. It was decided to hold the next meeting, namely the mid-winter meeting, at Flint, Michigan.

The annual meeting of secretaries of state medical societies and editors of state medical journals which takes place in November in Chicago, was of more than usual interest this year when the usual number of secretaries and editors were present, but in addition a number of presidents of state medical societies and other officials also attended. Michigan was represented by Drs. J. M. Robb, President of the Michigan State Medical Society; George LeFevre, President-Elect; B. R. Corbus, Chairman of the Council; F. C. Warnshuis, Secretary, and J. H. Dempster, Editor of the Michigan State Medical Journal. The program was in the nature of a symposium on the factors that are making inroads into the practice of medicine. A number of very excellent papers were presented by men outside of the editors and secretaries. These papers will be published and therefore available to the members of the Michigan State Medical Society in succeeding numbers of the Bulletin of the American Medical Association. However, the editor of the Michigan State Medical Journal has endeavored to summarize the addresses and discussions. This article will appear in the January, 1933, number of this Journal.

DEATHS

DR. RAY C. STONE

The community was shocked on October 31, 1932, to hear of the sudden death of Dr. Ray C. Stone of Battle Creek. Dr. Stone had been out hunting in the country, where his lifeless body was found near his automobile. Dr. Stone had practised in Battle Creek for twenty-seven years following his graduation from the Detroit College of Medicine. He had always taken an active interest in medical affairs and as a consequence had been made President of the Calhoun County Medical Society and as is well known he was President of the Michigan State Medical Society in 1930-1931. Dr. Stone had served as captain during the world war, where he was in charge of a division of neuro-surgery in France. Dr. Stone was fifty-two years old. He was born at Ionia, Michigan. He is survived by his widow and one son, Merritt, aged seventeen years.

RESOLUTIONS

WHEREAS, Dr. Ray Clinton Stone was an honored member of the medical profession of the State of Michigan, and received the highest honors to be conferred by his confreres in this state; and

WHEREAS, he has maintained a close association with members of the medical profession in this and other cities of Michigan, and these physicians keenly feel his loss; and

WHEREAS, he was an outstanding citizen and the personification of honor, holding the respect of men for his leadership and their affection for his integrity;

THEREFORE, BE IT RESOLVED, that the Wayne County Medical Society pause in its deliberations to honor the memory of an illustrious physician, a sincere friend, a loving husband and father, a successful leader and an honorable citizen; and

BE IT FURTHER RESOLVED, that the Wayne County Medical Society express its sincere sympathy to the bereaved members of the Stone family. It sadly

realizes that no words from it, formal or informal, can assuage their grief or make them feel less keenly the greatness of their loss.

Adopted by the Wayne County Medical Society, Detroit, Michigan, November 1, 1932.

H. WELLINGTON YATES, M.D.,
President.

H. A. LUCE, M.D.,
Chairman Board of Trustees.

Attest: E. C. BAUMGARTEN, M.D., *Secretary.*

DR. JAMES W. LOSEE

Dr. James W. Losee of Pontiac died at his home on October 24, 1932, after an illness of three weeks. He was born in Springfield Township November 19, 1865. After a preliminary education in the district schools and the high school of Fenton and Pontiac he entered the homeopathic medical department of the University of Michigan, from which he was graduated in 1891. Dr. Losee was a member of the Oakland County and Michigan State Medical Societies as well as the American Institute of Homeopathy and the American Medical Association. He was active in the civic affairs of Pontiac, being at one time a member of the Pontiac Board of Commerce. He was also health officer of Pontiac for five years. He is survived by his wife; his mother, Mrs. Martin J. Losee; and two brothers, Floyd H. of Pontiac and Maynard A. of Wixom; and a sister, Miss Sarah L. Losee of Pontiac.

DR. ALBERT L. BRANNOCK

Dr. A. L. Brannock of Pontiac died at his home on October 13, 1932. He was born in Flint on June 15, 1872. He attended the Groveland Township Schools in Oakland County, the Michigan State Normal College at Ypsilanti and the Detroit College of Medicine, from which he received his medical degree. He also took post-graduate work at Harvard and Columbia Universities. Dr. Brannock located at Pontiac twenty-five years ago and was in private practice until he took over the duties of Director of Health Education in the schools of Pontiac in 1919. Dr. Brannock was a member of the Oakland County Medical Society, and the Michigan State Medical Society. He is survived by his widow, Mrs. Flora Crosby Brannock; one son, Jack, who resides at home; one sister, Mrs. Helen Coventry of Ortonville, and Chancey M. Brannock of Maryville, Mich.

DR. H. A. VENNAMA

Dr. H. A. Vennama of Menominee, Michigan, died very suddenly at his home on October 20, 1932, of angina pectoris. Dr. Vennama was born at Holland, Michigan, sixty-eight years ago, where he attended the public schools and Hope College. He served as a drug clerk in Milwaukee, after which he came to Menominee. Following experience as a druggist he graduated from Northwestern College in Chicago with the degree of M. D. in 1887, and had practised in Menominee up to the time of his death. He is survived by one daughter, Miss Virginia Vennama, and two brothers.

DR. GEORGE W. RIDENOUR

Dr. George W. Ridenour of Detroit died suddenly at his home at the age of forty-three years. He had been in failing health for a number of months but he was able to continue his practice up to the time of his death. He was born at Massillon, Ohio, February 13, 1888, the son of Dr. Albertus W. Ridenour. Following attendance at the preparatory school in Ohio Dr. Ridenour entered the Uni-

versity of Michigan Medical School in 1908, but completed his work at the Detroit College of Medicine and Surgery in 1913. Dr. Ridenour was Staff Physician of the Detroit News, also the Pere Marquette and Wabash Railways and Chief Surgeon for the Continental Casualty Company. He was a member of the Palestine Lodge F.A.M., etc., also the Detroit Consistory and Moslem Shrine. He is survived by his wife, Mrs. Helen Ridenour, and two sons. Dr. Ridenour was a well known and popular member of the Wayne County Medical and Michigan State Medical Societies.

DR. CLARENCE E. TRUESDELL

Dr. Clarence E. Truesdell of Detroit died at his home on November 23, 1932, after an illness of slightly more than a week. Dr. Truesdell was born in Wayne County in the year 1893. He graduated from the Detroit College of Medicine in 1917 and has practised in Detroit ever since. He served as intern in Providence Hospital in 1918. Dr. Truesdell was a man of sterling character, quiet and unassuming. He will be greatly missed by all whose good fortune it was to know him. He leaves his wife, Arlene, and three children, Phyllis, Robert and Joan.

COMMUNICATIONS

AN ACCEPTANCE

Dear Doctor Warnshuis:

I have before me your request to serve on the committee on the Study of Birth Control.

This is a subject the physician naturally surveys with considerable trepidation, and certainly medical societies should give the matter serious thought before committing themselves to any expression of policy.

Because of the great popular demand for control knowledge, the medical profession must decide whether it shall or shall not become a party to the movement, and because of this necessity I accept your invitation to assist in the study of the problem.

Very sincerely yours,

R. S. MORRISH.

CHOICE OF PHYSICIAN

State of Michigan

DEPARTMENT OF LABOR AND INDUSTRY
Lansing

Lansing, Michigan.
November 9, 1932.

F. C. Warnshuis, M.D., Secretary
Michigan State Medical Society
1514 G. R. National Bank Building,
Grand Rapids, Michigan.

My dear Doctor:

I have your letter of November 4 in relation to medical services in connection with Workmen's compensation cases.

I am sending to you under separate cover two copies of the Workmen's Compensation law and direct your attention to Section 4 of Part 11 thereof. You will note that this section provides that the employer shall furnish or cause to be furnished reasonable medical, surgical and hospital services, and there is no provision by which the employer can be required to furnish such services when procured by the disabled employee himself. This latter question is, of course, covered by the rule of the Department and the decisions of the Supreme Court.

In many cases the employer or the insurer pays for such services when procured by the disabled em-

ployee, but these are usually emergency cases or cases where the employer or the insurer has not selected a physician. There are other cases when the Commission has determined that the services furnished are not reasonable within the meaning of the Act, and payment of services procured by the employee have been ordered for payment.

The principle upon which this section is founded is that the employer or the insurer has the right to select the physician, and when the service is promptly and properly rendered any additional service must be paid for by the employee himself.

Yours very truly,

JOHN L. BOER, *Secretary.*

To the Editor of the Journal of the Michigan State Medical Society:

The Radio Committee of the Michigan State Medical Society is desirous of extending its work throughout the state if possible and would like to include those districts which are at present not directly represented. It is highly desirable that every station be prevailed upon to permit messages from the medical profession to the public. At present Detroit, Grand Rapids, Jackson, Saginaw and one or two other places are represented. The committee invites correspondence from any of the constituent County Societies regarding the important matter of broadcasting. The Committee welcomes criticisms and suggestions.

Signed,

Radio Committee of the Michigan State Medical Society.

W. J. STAPLETON, JR., *Chairman*, Detroit, Mich.

H. H. ALTER, M.D., Detroit, Mich.

W. A. MANTHEI, M.D., Lake Linden, Mich.

NARCOTIC HABITUÉS

Those of us engaged in pharmacy feel that the indiscriminate use of the word "drug" where "narcotic" or "dope" should be used is a reflection on an honorable business and profession and tends to degrade it in the minds of many lay readers. As defined in the National Food and Drugs Act, a drug is an article used for the purpose of curing, mitigating, or preventing disease in man or other animal.

News writers and headline writers frequently refer to "drug" addicts, "drug" fiends, and "drug" raids when they mean narcotic (or "dope") addicts, narcotic fiends, and narcotic raids.

There is no objection on the part of the pharmaceutical profession and the drug trade to the publication of the misdeeds or misadventures of "dope peddlers" or "dope addicts," but to describe them as "drug peddlers" or "drug addicts" does an injury, so we are asking all editors to help discontinue the practice of using the word "drug" where the word "dope" or "narcotic" should be employed. There are assurances from the editors of newspapers that the subject will have their attention.

The practice is widespread in medical and pharmaceutical literature. Nearly every one having to do with such publications has been guilty of this misuse of the word "drug," even those of us who are seeking a discontinuance of the abuse.

If the editors of the medical journals would use the word "narcotic" or "dope" instead of "drug" in news items of raids or convictions, and in the columns advertising treatment for narcotic addicts, it would be a material aid in correcting an objectionable practice. Your coöperation to this end is earnestly requested.

Very respectfully,

ELI LILLY AND COMPANY

JOHN S. WRIGHT, *Director*

Advertising Department.

SOCIETY ACTIVITY

HO! WHAT CHEER?

Christmas, 1932—New Year's, 1933—We hail them—Ho! What Cheer? What indeed? Plenty. The year is about past and we have lived through it. True, it was fraught with many trying hours, days and nights of worry, and we were forced to forego much and relinquish many comforts and pleasures. But we lived, and in a school of experience we learned. We are wiser, we hope, and our lessons fit us for the future. We were tested and, though wounded, we carried on. A bitter experience to all of us, but it is past—we are on an uproad and Christmas and New Year's are at hand.

Let us be of cheer and retrieve fullest possible measures of happiness. Shall we not draw the curtain over what is past and indulge in this season in all the cheer we can find so as to be fortified to enter the new year with happy anticipations and a determination to regain all the joys of service, fellowship and life? Yes, there is much we could crab about, losses to be mourned, conditions to be complained of. Certain shadows still envelop us; the road is not yet all sunshine and roses. Serious problems still confront us; conditions are changed. Of what good will it be to continue to distrust and disbelieve?

So, here is a hearty, wholesome wish for a Merry Christmas time. Embrace the Christmas spirit and be of cheer. Pass it on. Be inspired. Regain faith and determine to make the new year compensate for the past year in happiness, joy of living and working and being re-inspired to carry on with zest and zeal during 1933. A Merry Christmas and a Happy New Year to you all.

THE SOUL OF MEDICINE

Probably at no time during the present generation has the term *economics* been so frequently used as it is now. From an almost purely academic subject in the past it has become a painful reality. From its very nature probably in no other subject with which the human intellect has attempted to grapple are the elements of economics so widely though perhaps not so well known.

As with that other term, *politics*, a common word with the so-called man on the street, so the same individual claims a greater or less acquaintanceship with the term economics. The past three years and particularly the last year have made the subject very vital to us and one to which serious attention must be given if we are to emerge from the present chaos. The inordinate greed for gain has gone a long way towards the destruction of old-time moral standards whose aim was service. Industry, which at one time sought to serve, has since assumed the rôle of exploiter. The commercial banker has in many instances become an investment banker with ideals of profit rather than that of service. And the old-time standards of honesty and honor have given place to the warning, *caveat emptor*. In other words, let each look out for himself and the devil take the hindmost.

The statesman, the politician, the industrialist and the professional man are keenly alive to the errors of the present system and seek, perhaps vainly, to readjust, through the new distribution and revision of economic standards, the glaring defects of our present unhappy situation which has spelled disaster for so many. But may we not have to go back of all this economic determinism to find some of the causes for this dread disease, and for which so many cures are offered? May it not be that the Soul of Industry, the Soul of Banking, and even the Soul of Medicine are to a great extent responsible for the country's ills?

Plato, the Father of Greek Philosophy, was the first great thinker to endow Man with a Soul, and all outward expression of human activity, whether good or bad, was determined by the condition of this spiritual reality somewhere within the personality of mankind. Perhaps the most crying need for the world today is not panaceas and theories whereby new procedures may take place in all departments of human life, but a revaluation of the motives and purposes of the Soul.

When in Medicine the human attributes and personal interest between physician and patient are entirely lost, may it not be that the Soul of Medicine has gone with it? Hippocrates, whom Plato quotes, never dreamed the extent to which *Materia Medica* could progress in the two thousand years that were to follow him, and yet, in his "Oath"

which his descendants were to accept for generations, he stresses the essential qualification of the physician for all time, namely, the high plane of ethics upon which the science of Medicine can only be practiced successfully, and that standard being dependent entirely upon the Soul of the practicing physician.

Science and research will continue to provide new cures for the diseases that rack the human body; Surgery will advance from its present high level of technic and efficiency to heights undreamed of in the future; but depersonalization of the human relationship between physician and patient, which is now the trend in the practice of modern Medicine and Surgery, may counter-balance all the progress made since the days of the Greeks.

The Soul of Medicine is at its fullest realization when the physician, with intelligent and sympathetic understanding, treats the patient as a complete personality in which the spirit must be healed as thoroughly as the disease, and the patient in turn looks to the doctor as one in whom he finds the skill of an Hippocrates combined with the sacred and inviolate consideration for the soul that was embodied in St. Luke, the Beloved Physician.



President Michigan State
Medical Society.

SOLICITORS WANTED

There are a number of industries and business firms in several cities in Michigan who might use to advantage advertising space in your JOURNAL. They either make or sell products used by doctors and their families. The advertising pages of the JOURNAL afford a medium for presenting their business and service to doctors. It is more effective, "pulls better," than does letter approach.

You, Doctor, may know of some druggist, wholesaler, auto supply dealer, insurance man or finance firm who could well use the JOURNAL's advertising columns.

Do you want to pick up some extra funds? Will ten, twenty, fifty or a hundred dollars for a little time be an incentive? The

JOURNAL will pay 20 per cent commission on all sales of advertising space. Sell one page for a year and \$60 is yours. Sell three half pages for three months each and \$54 is yours. Sell a quarter page for a year and \$18 is yours. An opportunity exists in every community. You members in Detroit, Flint, Pontiac, Saginaw, Battle Creek, Kalamazoo, Lansing and Jackson have exceptional opportunities. Why not embrace these possibilities to secure cash funds in a dignified manner?

If interested, write to the State Secretary for space rates, selling data and contract blanks.

DISTRICT ACTIVITY

The Seventh Councilor District has held two meetings of the four counties, both well attended, one at Port Huron with an attendance of over one hundred; the second at Marlette in Sanilac County with fifty men present.

We are now making preparations for a third meeting, to be held at Brown City, December 5, when Dr. Webster, of Marlette, who is going hunting, promises a venison dinner.

Every member of the State Society is invited to be present at that time and is assured that Dr. John Campbell of Brown City will see to it that no one's time is wasted.

Port Huron, Mich.,
October 18, 1932.

State Secretary:

On Thursday evening, October 13, I attended the county meeting of the Lapeer Society, at Lapeer. There were twenty-four in attendance, with visitors from Genesee, Sanilac, and St. Clair Counties.

The paper of the evening, on "Hematuria," was ably given by Dr. Flynn of Flint. A good discussion followed.

On Monday, October 17, I attended the meeting of the Sanilac County Society, held at Greenings Inn, Port Sanilac. We had an attendance of thirty-one, representing Huron, Lapeer, Tuscola, Genesee, St. Clair and Sanilac Counties.

Papers were given by Dr. Lafon Jones and Dr. H. Randall of Flint—the first, on "Tuberculosis in Children," and the other on "Thrombo-embolic Conditions." Both were excellent talks and were followed by free discussion.

I was able at this meeting to establish a closer contact with Huron County members and I believe that in the near future I will be able to have them get together and hold a meeting which will be the first one for nine years.

However, some of the men in that county have been very active in a quiet way, and have maintained close contact with the legislators of that district. They have responded to our call at all times, but

owing to the fact that no meetings have been held they have not received due credit for what they have done.

At the Sanilac County meeting last night, the members of that society voted to affiliate with Huron County, if it was the desire of Huron County to do so. As each county has few doctors I believe this is a desirable move, and I would like the proper sanction for such action.

I will send each doctor in Huron County a personal letter with an invitation to attend a meeting. With each letter, I shall have return card for acceptance, and as soon as these are in will arrange the meeting with them. I will also furnish a program for them and take as many of our members with me as I can get to go.

I have found that all the county meetings in my district are becoming more interesting and enjoyable because we are having members from each county attend at all the other units of the district. It has created a wonderful spirit of friendship and coöperation, and the men look forward to these gatherings with anticipation of good times.

We have a wonderful crowd of men and they are really doing much to help the cause of the State and National Societies.

All the counties of the Seventh District favor the increase in dues and the \$600 appropriation for Dr. Marshall's committee.

Yours very truly,
T. F. HEAVENRICH, Councilor.

Port Huron, Mich.,
October 24, 1932.

Dear Doctor:

This message to you I wish to have as concise and brief as possible. I don't wish to burden you with facts or figures, but I do wish to hammer home just one idea. That is, unless all of the medical profession act unitedly we are all going to suffer.

There has never been a time in the history of the practice of medicine when concerted action was more vital than now. Legislative matters affecting the Public Acts under which we work are coming up for change. It is up to us to decide what those changes should be. And in this matter we are against a well organized force of the Cults.

The old saying, "United we stand, divided we fall," was never more apparent to us than now.

As Councilor for the Seventh District of the State Medical Society it is up to me to organize the doctors of this section, and there is no better method of doing this than to see that all county societies are organized and functioning.

We are well organized in St. Clair, Lapeer and in Sanilac Counties. All of these units are doing excellent work and their meetings are very well attended. The individual men are for the most part taking a much greater interest in matters than they did as outsiders, and the result is gratifying to me and to them.

My purpose in sending you this letter is to ask if you will attend a gathering of the doctors of Huron County to discuss matters looking to the reorganization of your society. It does not matter whether you belong to the State Society or not. I am sure you will wish to join us when you become aware of existing conditions.

The time and place of meeting will be left to your old officers—Drs. Holdship and C. I. Herrington. All I ask of you is that you return your answer on the enclosed card at once so that I can proceed with the arrangements.

I will furnish a scientific program for you if you desire one. Express your desire as to that.

Please fill in the enclosed card at once—don't

leave it for next day. With anticipation of an early reply, I am,

Yours fraternally,
T. F. HEAVENRICH, Councilor.

The foregoing exemplifies activity that achieves. The Councilor and Drs. D. McColl, J. G. Battley and T. E. De Gurse are persistently contributing their efforts to create a district unity that will enhance organizational progress. It is an example that may well be emulated.

COUNTY OPPORTUNITIES

The following letters and outline presents an opportunity to every county society. It should be a stimulus to every county. If it can be done in Illinois it can be done in Michigan. It is movements like this that will conserve individual interests. When they are perceived and applied many problems of medical care will vanish.

ILLINOIS STATE MEDICAL SOCIETY

OFFICE OF THE SECRETARY

Monmouth, Illinois, November 5, 1932

Dr. F. C. Warnshuis

1508 Grand Rapids National Bank Bldg.

Grand Rapids, Michigan

Dear Doctor Warnshuis:

You may be interested in a recent action of the Illinois State Medical Society in recommending to all component County Societies that they supervise their own clinics, and also sending each of them the enclosed outline relative to the organization and operation of Physically Handicapped Children's Clinics throughout Illinois.

Several years ago, the Rotary Club in Illinois sent two or three clinicians to various communities in the State to conduct for them Crippled Children's Clinics, and three years ago the Illinois Elks Association took over the work from the Rotary Clubs. The Elks have, for the past two and one-half or three years, been sponsoring these clinics in various parts of the State, having a chief surgeon in Chicago, who has named clinicians to act as "Zone clinicians" in carrying on the work. As matters now stand, the physicians are doing the work, and the Elks claiming the credit for the successful operation of the clinics.

Our Society is old fashioned, and still believes that all Health Movements and Clinics, to be successful, should be supervised both as to arrangement and operation, by Medically trained people, and should be managed in each community by the County Medical Society. We have no intention at this time to interfere with the work the Elks are sponsoring, or antagonize them in any way, but we have a number of representative communities where the County Society is organizing their own clinic, along the lines suggested in this outline. We have several such clinics which have been running successfully, for as long as six years, so we know it can be done. At this time, we are receiving the co-operation of the Illinois Federation of Woman's Clubs, and we are always anxious to enlist the aid of other organizations, to work with us in a co-operative way, and they are a big help to us.

I will appreciate it if you will look over the enclosed at your own convenience and let me know

your own opinion of the idea, and tell me if you agree with us in the movement. Enclosed also, are two reprints having a direct bearing on the movement.

With kindest regards I am

Yours very sincerely,
H. M. CAMP.

ILLINOIS STATE MEDICAL SOCIETY PHYSICALLY HANDICAPPED CHILDREN'S CLINICS

Conducted under direct management of local county medical societies.

1. Primal Unit, The County Medical Society, or, if desired, a group of two or more adjoining or nearby County Societies.
2. Coöperative Organizations—State Department of Public Welfare, State Department of Public Health, State Department of Public Instruction, and any other State Departments or Agencies which may desire to coöperate, Parent-Teachers Associations, Dinner Clubs, Federation of Woman's Clubs, Local Nursing Units, and any other agencies or organizations desiring to aid in a coöperative way.

THE PLAN

1. A Staff of qualified clinicians is available to conduct the Physically Handicapped Children's Clinics. When desired by the local County Medical Society, a list of these clinicians will be sent to them by the Scientific Service Committee of the Illinois State Medical Society so that they may make their own selection.
2. The County Medical Society in arranging the clinics shall have the assistance of the Scientific Service Committee of the Illinois State Medical Society, or any special committee which may be selected for the purpose.
3. The clinics should be conducted regularly, according to the desires of the local Society or Societies, and if possible should be conducted at a hospital in the community where the clinic is to be held.
4. The actual arrangements for each clinic should be made by the local County Medical Society, or group of Societies.
5. A list of physically handicapped children in each county has been made available through a resolution passed by the Illinois Legislature ordering a survey in each county to get a complete list of all such cases. The survey has been completed, and the list for each county can be procured by the local County Medical Society desiring same, by applying to the Scientific Service Committee, a sub-committee of the Educational Committee, Illinois State Medical Society, 185 North Wabash Avenue, Chicago.

THE CLINIC

1. Each patient should be regularly admitted to the Clinic and given a number, which number is retained for that patient for subsequent clinics.
2. All pertinent data concerning the case should be submitted by the family physician, and should include a history of the disability itself, family history, economic conditions under which the patient lives, etc.
It is most desirable to insist on all actual indigents bringing a statement of their economic condition from a supervisor of charities, township supervisor, or some other designated officer in addition to statements from the family physician.
3. Patients able to pay a moderate, or even small fee for services rendered at the Clinic should do so, getting away from unnecessary pauperization.
4. It is always desirable to have visiting, community welfare, or Public Health nurses present at the Clinic if same are available in the community.
5. The family physician of each patient should be urged to attend the Clinic, so that he will be better able to carry out the desired after-treatment.
6. Treatments prescribed or plaster of paris casts may be applied at the time of the Clinic by the family physician, or in his presence, so that the suggestions of the clinician may be carried out properly.
7. A complete record of each case with the suggestions for treatment made by the Clinician should be made during the Clinic, and later written up in detail, a copy being retained by the Society or at the Hospital as desired, and one copy for the family physician. A third copy can be made and given to a nurse, for follow-up visits if desired.
8. All patients referred to the Clinic should be assigned to a definite physician, if they have no regular family physician or any preference, in order that they may receive the proper after-care.
9. It is always advisable for nurses, or someone designated for the purpose, to follow up each case, calling at the home of the patients soon after the Clinic to see that they desire to carry out the orders of the Clinician. Similarly, all patients should be notified before the Clinic so that they may appear at the proper time.

FINANCING THE CLINIC

1. The Illinois State Medical Society assumes no financial or other responsibility for the management or condition of Clinics.
2. It is recommended that the necessary financing of Clinics be managed by the coöperative organizations, which

can be done in many ways, such as holding card parties, charity balls, rummage sales, home talent plays, etc., and possibly through such assistance as may be procured from civic or township organizations.

3. Arrangements should be made to pay promptly the traveling expenses of any visiting Clinician. The Clinician should be given some modest remuneration for his services—such expenses and such fees can come from the funds collected for the operation of the Clinic.

THE RECORDS

The records of each case coming before the Clinic should be kept in cumulative form, in individual folders arranged for the purpose. They should include:

- Patient's name, age, address, number, and name of the parents.
- History—past, present, family, etc., in detail.
- Examination records with all findings, all subsequent records of progress, suggestions made for the care of the patient, and all other pertinent data should be added from time to time.
- Special examinations, including X-ray films, should be made a part of this cumulative record.

PROGRESS REPORT OF THE COMMITTEE ON THE SURVEY OF MEDICAL SERVICES AND HEALTH AGENCIES

With certain exceptions public relations committees have been appointed by the local societies and have supplied the necessary information preliminary to the local studies. The county societies which have thus far failed to lend the necessary aid are as follows: Oceana, Tuscola, St. Joseph, Huron, Dickinson-Iron, Berrien, Alcona, Benzie, Lake, and the society combining Otsego, Montmorency, Crawford, Oscoda, Roscommon and Ogemaw. In certain cases no replies have been received from the secretaries of these societies and in one case the public relations committee appointed has been inactive. Since these societies include sixteen counties it means that we now have returns from sixty-seven of the eighty-three counties in Michigan.

In general the percentage of returns from physicians is fairly good. Following is a list of the counties showing those which have failed to coöperate and, for each county which has coöperated, the schedules returned and the percentages of the total number of schedules mailed to the physicians.

PHYSICIAN'S SCHEDULES

County	Prel. Sch. Not Rec'd	1st Sch. Mailed	2nd Sch. Mailed	Sch. Rec'd	Per Cent Rec'd
Alcona	X				
Alger—See Marquette					
Allegan—See Kalamazoo					
Alpena		12	9	6	50
Antrim		11	6	4	36
Arenac—See Bay					
Baraga—See Houghton					
Barry		16	10	8	50
Bay-Arenac-Iosco-Gladwin		68	48	29	43

Benzie	X				
Berrien	X				
Branch		19	10	8	42
Calhoun		70	44	42	60
Cass		21	13	11	52
Charlevoix		11	6	5	45
Cheboygan		10	6	6	60
Chippewa-Mackinac-Luce		19	16	9	47
Clare—See Gratiot					
Clinton		21	17	8	38
Crawford	X				
Delta		22	18	6	27
Dickinson-Iron	X				
Eaton		32	18	16	50
Emmett		13	6	6	46
Genesee		167	119	94	56
Gladwin—See Bay					
Gogebic		23	15	12	52
Grand Traverse-Leelanau		30		6	
Gratiot-Isabella-Clare		41	26	25	61
Hillsdale		23	19	11	52
Houghton-Keweenaw-Baraga		42	32	15	36
Huron	X				
Ingham		114	77	58	51
Ionia-Montcalm		50	32	29	58
Iosco—See Bay					
Iron—See Dickinson					
Isabella—See Gratiot					
Jackson		123	76	39	31
Kalamazoo-Allegan-Van Buren		169	104	81	48
Kalkaska—See Wexford					
Kent—Not Included					
Keweenaw—See Houghton					
Lake	X				
Lapeer		27	20	13	49
Leelanau—See Grand Traverse					
Lenawee		45	25	24	53
Livingston		14	9	8	57
Luce—See Chippewa					
Mackinac—See Chippewa					
Macomb		36	26	15	41
Manistee		16	8	9	56
Marquette-Alger		34	27	11	32
Mason		16	13	9	56
Mecosta-Osceola		18	11	12	67
Menominee		12	4	9	75
Midland		10	7	4	40
Missaukee—See Wexford					
Monroe		34	26	20	59
Montcalm—See Ionia					
Montmorency	X				
Muskegon		66	44	35	53
Kewaygo		13	9	7	53
Oakland		149	103	76	51
Oceana	X				
Ogemaw	X				
Ontonagon		7		0	
Osceola—See Mecosta					
Oscoda	X				
Otsego	X				
Ottawa		39	25	18	46
Presque Isle—Not Surveyed					
Roscommon	X				
Saginaw		89	66	34	38
Saint Clair		61	41	27	44
Sanilac		18	9	10	56
Schoolcraft		5	1	4	80
Shiawassee		31	17	16	48
St. Joseph	X				
Tuscola	X				
Van Buren—See Kalamazoo					
Washtenaw		119		41	34
Wayne		1376		393	29
Wexford-Missaukee-Kalkaska		24	15	14	58
Totals		15	3386	1233	1343

AVERAGE RETURNS—40 PER CENT

The average of 40 per cent is low because of the failure of a more complete return from Wayne County. It is hoped that the second mailing of schedules to this area will bring the average of the total return to at least 50 per cent.

Following the original plan, lists of those physicians who have failed to return a schedule have been mailed to public relations committees of local societies. These committees are asked to designate the approximate incomes, within very broad limits, of each

physician who has failed to make a return. While these figures will not be included in our analysis they will serve the purpose of determining whether or not those who failed to coöperate are to be found largely in only one income group or spread evenly throughout all income groups.

While the failure of the physicians to make complete and early returns has somewhat retarded the study, the analysis of schedules is being made now. To date, 1,350 schedules have been received and it is estimated that the complete returns will include information from 1,600 practicing physicians in the state.

The study of population and income is now making good progress and should be completed before January 1. This study is regarded as fundamental to the committee's final conclusions and must form one of the major pillars upon which the recommendation will rest.

The study of public health agencies has reached the stage where practically all of the material has been collected and the major part of this material has been analyzed for presentation. At present the report on these activities is being prepared and will be presented to the sub-committee for its consideration approximately December 1. The recommendations from the subcommittee will be transmitted with the report to the state committee.

The sub-committee on hospitals is now revising the main hospital schedule and the collection of information will start about November 15. In addition, data are now being prepared concerning the governmental expenditures for hospitals in Michigan. These expenditures will include the hospitals for mental diseases, tuberculosis, and other communicable diseases.

As soon as the studies of physicians and hospitals are completed the remainder of the studies will be brought to a close rapidly, so that the committee may begin to draft its conclusions at an early date. According to the present plan the committee will start its regular sessions during the early part of December. The task of digesting the information will be a tremendous one and the value of the entire series of study will very largely depend upon the time permitted for this process.

W. H. MARSHALL,
Chairman.

AN EDITOR SEES AND THINKS RIGHT

It might be well to pass this editorial on to the editor of your local paper. Public opinion can be enlightened. The following is from the Farmington *Enterprise*:

LOADING IT ON THE DOCTORS

The Oakland County Board of Supervisors is to decide within a few days how poor relief will be dispensed, whether under the County system as at present, or under the Township system that formerly prevailed. Regardless of what decision is made, one factor of the present situation cannot continue. That is the policy of making no provision for medical attention for indigents who may become ill, and depending upon the local doctors to dispense relief to the sick at their own expense. This has been the situation for months, and it has resulted in the indigent sick getting inadequate attention and the doctors getting no compensation whatever.

The present Poor Commission's report made a short time ago shows some savings in administration of poor relief that are not to be gainsaid. The men in charge are businessmen familiar with large-scale operations, and they handle things efficiently. But as one able supervisor has pointed out, in their showing of various large amounts saved are some things that must be discounted, and one of them is in regard to medical care. It is neither fair, right, nor good sound judgment to throw this burden back onto the doctors in the various communities and expect them to carry the load, then pointing to the "saving" achieved.

There is no need to dwell on the services performed by the physician in his community. In the best of times and under the happiest of circumstances his is still the most arduous, the most exacting and most soul-trying of professions. He knows no genuine rest, unless he runs away from his patients for a short period each year, and few of them do. Most of us go to bed at night knowing at about what time we will get up and how many hours sleep we will get, but the doctor never does. At all times, in all kinds of weather, he is at our beck and call—little better than a modern slave. For his toil he gets this: that if the patient dies, Dr. So-and-so was his doctor, and if the patient lives, it was Nature that performed the cure. Most doctors themselves die before their time.

Further it is also probable that no profession has been harder hit financially than the doctors. It is proverbial that "after the cure the doctor is forgotten," that even in good times the doctor is the last man paid. Now, in bad times, it is even worse. And two things are to be remarked. First, it is precisely in those sections of the County where the industrial populations live, that the physicians are having the hardest time, simply because so great a proportion of the population need every penny they can scrape up for food. The doctors have fewer paying patients, and the general health in these poorer sections is unquestionably at a lower mark than in the more prosperous areas, due to lowered resistance through undernourishment and neglect. A second fact to bear in mind is that in throwing this burden back on the doctors, a penalty is placed on humanity and kindness, since the more humane the physician the greater is the weight he will be called upon to carry. This rare doctor who may assume a "hard-boiled" attitude travels a happier, easier road than his colleagues whose instincts will not let them turn a deaf ear to suffering.

Medical care is an essential part of life, just as

are food and shelter. Indeed, the indigents who happen to fall ill are in the greatest need of all. Tossing the problems of these people back into the laps of our local doctors is not a "saving" in any sense—it is merely a start toward undermining the most important profession in the world.

INQUIRIES

The facilities of the Secretary's office are at the disposal of every member. Whenever assistance can be rendered or information imparted your requests will be promptly complied with.

In one day, this past month, the following inquiries were promptly replied to:

1. Rules governing fire insurance rates.
 2. Rule as to whether an employee could designate his own medical attendant in a compensation case.
 3. Address of a classmate.
 4. To what extent may a doctor advertise?
 5. Is ——— sanitarium ethical?
 6. Where can I sent a narcotic addict.
 7. How to secure a New York license.
- It is a pleasure to be of service to members.

MICHIGAN STATE MEDICAL SOCIETY POSTGRADUATE CONFERENCE NINTH COUNCILOR DISTRICT

Thursday, November 10, 1932, at 1:15 P. M.
Northwood Hotel, Cadillac, Michigan

PROGRAM

Harlen MacMullen, M.D., Manistee, Councilor,
Presiding

- 1:15—Opening Statement—Councilor MacMullen
- 1:30 to 2:00—Management of Labor—H. S. Collisi, M.D., Chief of Obstetrical Service, Butterworth Hospital, Grand Rapids.
- 2:00 to 2:30—Pyelitis—W. J. Butler, M.D., Urologist, Blodgett Hospital, Grand Rapids.
- 2:30 to 3:00—Birth Injuries—T. D. Gordon, M.D., Pediatrician, Blodgett Hospital, Grand Rapids.
- 3:00 to 3:30—Contraceptive Principles—H. S. Collisi, M.D.
- 3:30 to 4:00—Intravenous Urography—W. J. Butler, M.D.
- 4:00 to 4:30—Infant Feeding—T. D. Gordon, M.D.
- 4:30 to 5:00—Treatment of Pneumonia—B. R. Corbus, M.D., Grand Rapids.
- 5:00 to 5:30—Head Injuries—F. C. Warnshuis, M.D., Grand Rapids.
- 5:45—Subscription Dinner and Social Hour.
- 7:00—Organizational Problems—B. R. Corbus, Chairman of the Council.
- 7:30—Organizational Activities—F. C. Warnshuis, State Secretary.

A very successful district conference was held at the Hotel Northwood at Cadillac the afternoon and evening of November 10.

We regretted Dr. Gordon's being unable to attend. The program was all very interesting with Dr. Collisi's talk on "Management of Labor," Dr. Butler's talk on "Pyelitis," Dr. Corbus' talk on "Treatment and Pneumonia," and particularly Dr. Warn-

shuis' talk on "Head Injuries" was especially instructive and presented a new angle in the care of not only head injuries but other injuries sustained in automobile accidents.

There were twenty-seven in attendance and a turkey dinner was served followed by interesting talks by Dr. Corbus and Dr. Warnshuis on Medical Society organizations and the part the individual and society should take in medical economics. Dr. Warnshuis complimented the Tri-County Medical Society on being one of the few societies in the state that had a hundred per cent membership of the doctors in its territory.

Counselor H. A. McMullen very ably presided and the members of the Tri-County Society felt the meeting was a decided success. It was regretted that due to illness our President, W. Joe Smith, was unable to attend.

J. F. CARROW, *Secretary.*

INSURANCE CLAIM BLANKS

The Chairman of the Civic and Industrial Relations Committee recently had a new experience in connection with filling out a claim blank for a patient.

The patient, who was the agent for a certain insurance company, came for the reduction of a fracture and in the course of his visits to the office presented a claim blank to be filled out for his insurance company. Your chairman made out and attached a statement to the blank for \$2.00, in accordance with the resolutions passed by our State Society. The agent (patient) stated that it was the policy of the insurance company not to pay fees for filling out blanks and offered the suggestion that an additional charge of \$2.00 be made on his bill for medical services, which, of course, the insurance company would be required to pay in accordance with the terms of the policy. He stated that filling out a claim blank by the physician for the patient was really part of the medical service rendered and therefore should be paid by the insurance company.

The suggestion is made to physicians that they adopt this method of collecting the \$2.00 fee as a temporary measure until the Bureau of Medical Economics of the American Medical Association makes its final report.

COUNTY SOCIETIES

BAY COUNTY

Wednesday evening, October 12, the Bay County Society resumed its meetings, after the summer recess. President Slattery presided, with thirty members present.

In addition to routine business, a number of important subjects were considered.

The Society has under consideration the establishment of a Central Physicians' Credit Bureau. The Society also decided to form at once a political unit to busy itself with local and state affairs, affecting the profession and the public health.

The Councillor, P. R. Urmston, gave an annual report of the activities of the Council.

The delegate to the state meeting reported in detail on the deliberations of the House of Delegates at Kalamazoo. He also reported on the unsuccessful attempt on the part of certain members of the State Society to replace the Councillors of this and the Ninth (Saginaw) districts.

After the business meeting, Dr. W. G. Gamble,

pathologist at Mercy Hospital, gave a very scholarly paper on "Glucose."

The Program Committee reported as speaker for the next meeting, Dr. A. E. Catherwood, Detroit.

L. FERNALD FOSTER, M.D., *Secretary*.

GRATIOT-ISABELLA-CLARE COUNTY

The October meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright Hotel, Alma, Thursday evening, October 13, with thirteen members and nine visitors for dinner. Four members came in after dinner for the program.

In the absence of President Burt, Vice President Carney called the meeting to order. The minutes of the previous meeting were read and approved. Doctor Carney then made his report as delegate to the State Society meeting at Kalamazoo.

With appropriate remarks Doctor Carney then introduced Dr. Reed M. Nesbit from Ann Arbor, who talked on the new operation for the removal of prostatic obstruction. The doctor showed the instrument used in doing the operation and went into details as to how the operation is done. The advantages of the operation are the shorter preparation, less shock and the shorter convalescence and reduction in the mortality rate as compared to prostatectomy. The doctor has done this operation in 160 cases, in which there were twelve deaths. Some of these 160 patients would have been considered unsafe for a prostatectomy. Some were out of bed on the third day and on their way home on the fifth day. After the operation a catheter is left in the urethra for about three days, after which the patient can usually urinate freely with very little distress.

Doctor Nesbit very kindly answered many questions. On behalf of the Society, Doctor Carney thanked Doctor Nesbit for his excellent presentation of this subject.

Meeting adjourned.

E. M. HIGHFIELD, M.D., *Secretary*.

HURON COUNTY

A meeting of the Huron County Medical Society was held at Huron Inn, Ubly, Nov. 10, at 6 P. M. This meeting was called after its need was urged upon every medical man in the county by personal letter from the District Councilor. In response to this call, twelve out of the nineteen doctors of the county attended. Five others signified their intent to be on hand, but were prevented for good reasons. Another was confined as a result of an auto injury.

This almost unanimous action is significant of the desire of the medical man to respond and do his part in whatever organized medicine calls on him to do. The interest and attention given to a talk by Dr. H. J. Robb, our state president, and the discussion following, was proof of this. Coming after Dr. Robb's talk and suggestions from many of the older men present, it was unanimously decided to endorse and work with the officers of the Michigan State Medical Society in all its endeavors for the good of legitimate medical practice.

At the dinner—one such as only Host Dr. Holdship could provide—there were over thirty served. The men present represented Huron, Sanilac, St. Clair, Lapeer and Tuscola Counties.

A resolution was offered that Huron County join with Sanilac County and form the Sanilac-Huron County Society. This was passed without a dissenting vote. And here comes the rub.

Dr. John Campbell, stalwart republican leader of Sanilac County, was pitted for the presidency of the combined society, against William Holdship, the arch democratic leader of Huron County. Dr. Hold-

ship, in his gracious manner, stated that as a good democrat he had all the joy he wished out of the elections of the eighth, and stated that he did not choose to run.

By motion, the officers of Sanilac County were asked to continue as officers of the present society. This was amended to make Dr. W. B. Holdship vice president.

Following the business meeting talks were given by Dr. T. Heavenrich, Head Injuries; Dr. D. J. McColl, Port Huron, Newer Remedies in Obstetric Practice; Dr. M. E. Vroman, Port Huron, Common Eye Conditions; Dr. J. C. Battley, Poliomyelitis, Diagnosis and Treatment.

This has been the first meeting of Huron County held in thirteen years. The members feel decidedly honored in that our state president, Dr. J. M. Robb, took the time and the trouble to attend and they wish to assure him that it is only for him to call on them for anything they may do in lightening his burden as chief executive of the state organization.

HURON-SANILAC

At the meeting of the Huron-Sanilac Medical Society on November 10, 1932, the following resolutions were drawn up:

WHEREAS: Dr. Sheldon B. Young has been called from our midst by the "Great Physician" and accepted his last Assignment and

WHEREAS: His passing is deeply felt by his associates in the medical profession and also by the community at large.

His friendly greetings and sympathetic understanding of life's problems will be missed by everyone.

BE IT RESOLVED: That the Huron-Sanilac Medical Society hereby tenders its profoundest sympathy to Mrs. Young and

BE IT RESOLVED: That a copy of this resolution be sent to the widow, published in the State Journal and also placed on file in this Society.

DAVID D. MCNAUGHTON
C. B. MORDEN
F. L. MORRIS

Committee.

INGHAM COUNTY

The new officers of the Medical Society of Ingham County, elected at the September meeting, are as follows: President, Dr. William McNamara; vice president, Dr. R. Pinkham; treasurer, Dr. T. I. Bauer; secretary, Dr. R. L. Finch.

The October meeting of the Medical Society of Ingham County was held at the Hotel Downey, on the twenty-fifth. After a dinner, attended by eighty members, the meeting was called to order by the president, Dr. McNamara. Reports were submitted by Dr. Bauer of the Bulletin Committee, and Dr. Davenport of the Indigent Sick Committee. The applications of Drs. J. S. Rozan, E. J. Robson and L. E. Bleuwkes for associate membership were approved.

Dr. J. Milton Robb, president of the Michigan State Medical Society, was the main speaker of the evening. He gave a very interesting and instructive talk on the functions of a medical society. Mr. William J. Burns, secretary of the Wayne County Medical Society, also gave a short impromptu talk supporting the National Economy League.

One of the new features this year is the publication of a monthly bulletin which is distributed to each member of the society and includes the minutes of the previous meeting, interesting features of the hospital staff meetings, hospital news, etc. We believe the bulletin is a great asset.

RUSSELL L. FINCH, *Secretary*.

JACKSON COUNTY

A large attendance marked the October meeting of the Jackson County Medical Society which met Tuesday evening, October 18, at the Elks Temple. After dinner the Society congregated in the Memorial Room for the regular business and scientific part of the meeting.

The minutes of the preceding meeting were approved as printed in the Bulletin. Dr. Hungerford moved that the By-laws be amended to the effect that the office of vice president be eliminated and a president-elect be elected at each annual election. The motion was seconded by Dr. O'Meara and was carried.

Dr. Frank Van Schoick, chairman of the Health Education Committee, reported that the activities of that committee were to be continued much the same as before. The tuberculin testing which last year was carried out only in the high schools is to be extended this year to include all the schools. Each year it is planned to have the pupils of the first, fourth, seventh, tenth and twelfth grades tested. In this way each pupil will receive a test each third year.

Dr. Clark stated that he would like to see the County meetings held on the third Monday evening of each month instead of the third Tuesday, eliminating the dinners. This, he stated, would give the members one more evening at home with their families, inasmuch as most of the members held Monday evening office hours and the meetings could be started at 8:30. He moved that the Board of Directors give this consideration. There was no second to this motion.

The meeting then was turned over to Dr. Earl Thayer, who introduced Dr. George E. Brown, chairman of Medical Education and Research at The Mayo Clinic, as the speaker of the evening. Dr. Brown gave a very instructive lecture on the subject, "Problems of Hypertension."

The meeting then adjourned.

R. H. ALTER, M.D., *Secretary*.

KALAMAZOO ACADEMY

The Academy was entertained at the Kalamazoo State Hospital on the afternoon of Tuesday, October 18, 1932. This was a clinical program and cases were presented to illustrate the topics discussed.

"Presentation of Cases of Syphilis of the Nervous System with Atypical Serology" was given by Dr. H. A. Sears. He presented four organic cases of syphilis with doubtful serology, and functional cases of insanity.

"Presentation of Unusual Neurological Cases" was given by Dr. McCarthy. He presented three cases of spastic paraplegia, a Parkinsonian syndrome of lethargic encephalitis, and a psychoneurosis hysteria.

Dr. Sears presented a case of multiple sclerosis.

Dr. Clark presented an unusual case of insanity with acute appendicitis where on operation a ten-penny nail was found in the appendix. Numerous other nails were found scattered through the intestinal tract.

Dr. John M. Dorsey, Assistant Director, State Psychopathic Hospital at Ann Arbor, presented two cases that vividly represented a manic depressive psychosis and schizophrenic psychosis or dementia præcox. He gave a static interpretation of these two forms of psychosis and differentiated them in regard to: first, what they started with in the matter of the integrity of their physical and mental make-up; second, what happened to them during life as regards physical and mental accidents, etc., third, what was in store for them?

At 6:30 P. M. a harvest dinner was served in the

Amusement Hall at the State Hospital. Music was rendered by an orchestra composed of employees of the hospital.

The business meeting of the Academy was then called to order by the President, Dr. Morter. The minutes of the previous meeting as published in the bulletin were approved.

Drs. Gregg and Don Rockwell moved the acceptance of the recommendations of the executive committee made at their meeting October 15, 1932. Motion carried.

Dr. Wm. Scholten of the Kalamazoo State Hospital was unanimously elected to membership.

Dr. Pratt read the resolutions on the death of Dr. A. H. Gifford. Drs. Hubbell and Wilbur moved the acceptance of the resolutions and that they be spread on the minutes of the meeting and a copy be sent to the family. Motion carried.

RESOLUTION BY THE KALAMAZOO ACADEMY OF MEDICINE ON THE DEATH OF DR. ARLON H. GIFFORD

Dr. Arlon H. Gifford was born in Augusta in 1870. He was educated in a local school and in Michigan State Normal College at Ypsilanti, and in the year 1900 he entered the Detroit College of Medicine, from which he was graduated in 1904.

He practiced in Alamo, Kalamazoo County, for several years and feeling that he desired more medical training he entered Grace Hospital, Detroit, and took one year of intensive intern work, after which he located in Kalamazoo.

Dr. Gifford was a family physician of the finest type and had been a physician, friend, and counselor of a large number of families continuously since he began his career of twenty-eight years. He was devoted to his work and gave to each of his patients the best care and advice that his long experience and training enabled him to give.

Resolved, that in the death of Dr. Gifford the Kalamazoo Academy of Medicine recognizes the loss of a brother practitioner of more than usual promise, and who was honored by all who knew him, esteemed by his fellow citizens, loved by his patients and friends, and was always ready to serve.

We, the members of the Kalamazoo Academy of Medicine, feel his loss very keenly.

Dr. Morter announced to all the death of Dr. W. E. Upjohn this day at his home at Brook Lodge and expressed a desire for the Academy to be present at his funeral in a body.

MECOSTA COUNTY

The regular meeting of the Mecosta County Medical Society was held at Osbournedale in Big Rapids, Michigan, Tuesday evening, October 11, 1932. The Dental Profession of Mecosta County were hosts.

Members present were Drs. Treynor, Franklin, MacIntyre, Yeo, Bruggema, Bunce, Campbell and Burkart; dentists: Drs. Pryor, Zetterstedt, Shank, Shepherd, Miller and Rogers. Dr. Ward Moore of Grand Rapids, president of the State Dental Society; Dr. James Spencer of Grand Rapids, member of the State Board of Dental Examiners; Dr. Eamons of Grand Rapids, the Hon. W. F. Jackson, Big Rapids; Lawrence O'Neill, and Dr. Claude Root and son of Greenville were guests of the Society.

The meeting was called to order by President MacIntyre at 7:45 P. M. Reading of minutes of the last meeting was dispensed with. The President introduced the new councilor for the Eleventh District, Dr. Thomas P. Treynor of Big Rapids, who gave a brief outline of the activities in prospect and commended close union of the two professions.

The meeting was turned over to Dr. Rogers, chair-

man of the evening's program, who introduced Dr. Ward Moore, president of the State Dental Society. Dr. Moore gave a very interesting and not generally known account of the methods employed by irregular dentists, who, by "catchy" phrases in advertising, entice people to consult them, with disastrous results. Dr. Moore enlarged upon the necessity of adequate legislation to protect the people against the nefarious practices of the "advertisers," and cited methods used to secure registration.

Dr. James Spencer, Grand Rapids, gave a very clear exposition of the work of the State Board of Dental Examiners, and urged all dentists and medical men to unite in petition to the Legislature of the State to enact vigorous laws to protect the public against the dangerous practices of the "advertising horde." Dr. Eamons of Grand Rapids also gave some very pertinent remarks on actual practices of the class of dentists in question, and urged the aspirants for legislative honors present to keep in mind the disclosures of the previous speakers.

Dr. Shepherd of Remus advised the Society that one of the "travelling frauds" had visited Remus. There being no further business, on motion a rising vote of thanks was given our hosts and guests.

On motion it was decided to hold the next meeting Thursday, November 10, because of election on November 8.

JNO. L. BURKART, *Secretary-treasurer.*

MONROE COUNTY

November 12, 1932.

Monroe County Medical Society held its annual meeting at the Park Hotel, Monroe, October 20, 1932.

The following officers were elected:

President, Dr. C. J. Golinvaux, Monroe; vice-president, Dr. J. H. McMillin, Dundee; secretary-treasurer, Dr. Florence Ames, Monroe; censor, Dr. W. W. Bond, Monroe; directors, Dr. P. D. Amadon, Monroe, and Dr. M. A. Hunter, Monroe; delegate, Dr. P. D. Amadon; alternate, Dr. D. C. Denman, Monroe.

The November meeting was held on the tenth, one week early so as not to conflict with the deer-hunting season. At this meeting, President Golinvaux outlined the program for the coming year. Dr. Henry F. Vaughn, Commissioner of Health, Detroit, spoke on "The Place of the County Medical Society in the Public Health Program." He described in detail the methods used in Detroit, where the anti-diphtheria campaign has been carried out in the offices of the private physicians, with good results as to immunization, minimum expense to the city, and doctors paid for their work. Every county society in Michigan ought to hear this talk. Dr. Philip D. Amadon, Monroe, gave his report as delegate to the state meeting in Kalamazoo.

Two new members were welcomed into the society: Dr. S. L. Miller, 18 S. Monroe St., Monroe, and Dr. R. W. McGeoch, Mercy Hospital, Monroe.

FLORENCE AMES, M.D., *Secretary.*

NORTHERN MICHIGAN

The regular monthly meeting of the Northern Michigan Medical Society was held at the Perry Hotel, Petoskey, on Thursday, November 10, with an attendance of eighteen members and two guests.

The meeting was called to order by President Stringham. The Secretary's report was read and approved. Various committees were heard from. The business was then laid aside and the program for the evening taken up.

Dr. Morrel M. Jones of Pontiac gave a most interesting paper on "Podalic Version—Potter Tech-

nic." To most of the men present podalic version and its accomplishment was a rare procedure and seldom done. But after listening to Dr. Jones and viewing his movies of the operation many felt that they really had learned that the many things they had heard of Potter's technic were wrong. The paper and movies proved to be one of the best programs we had ever had. Those who missed it were really out something.

The meeting was then closed after Dr. Parks of Petoskey was appointed to the program committee. Annual election of officers will be held at the next meeting in December.

E. J. BRENNER, *Secretary.*

SAINT CLAIR COUNTY

A regular meeting of Saint Clair County Medical Society was held at Edgewater Inn, Port Huron, Michigan, Tuesday, October 18, 1932. Supper was served to seventeen members and guests at seven o'clock, after which the Society was addressed by Dr. W. J. Cassidy of Detroit upon the general subject of cancer.

Doctor Cassidy presented the whole question in a pleasing and scientific manner and yet made his address perfectly understandable to his hearers. Beginning with the various theories which have been advanced in recent years with regard to the cause of malignancy, Doctor Cassidy took his audience through the entire subject down to treatment and then as a climax presented a dozen pathological specimens with a brief case history of each.

The most important points stressed by the Doctor were, that we are as much at sea as ever in regard to the cellular changes which make normal tissue become malignant, that the histo-pathologist is behind the surgeon in the matter of research, that not all types of malignancy may be treated with any degree of success and that in many cases lack of any treatment is better for the patient, that the slow growing types of tumor without metastatic growth offer the best prognosis for radical surgery, that the size of the primary growth bears no relation to its degree of malignancy, that reports from pathologists are often in error, that the surgeon must use his own judgment in the presence of negative reports, that the treatment of malignancy with radiation is largely experimental and often results fatally if the dosage be too great, that radium has its field of usefulness and must never be used in presence of a secondary infection, that malignant growths occurring before fifty are much more fatal than those of after life and that cases treated surgically must be carefully selected in order to avoid bringing the profession into disrepute by the occurrence of bad results.

The discussion was opened by Dr. J. A. Attridge. Doctors Heavenrich, Smith, Fraser and Bowden also took part in the discussion, after which Doctor Cassidy replied to questions and comments arising therein. A rising vote of thanks was given the speaker before adjournment.

GEORGE M. KESL, *Secretary-treasurer.*

SHIAWASSEE COUNTY

The September meeting of the Shiawassee County Medical Society was addressed by Dr. Neil Bently, of Detroit, on the subject of "Acute Affections of the Middle Ear."

The address was received with great interest by the members present, and many questions asked by those present.

The October meeting was well attended and had for speaker Prof. I. F. Huddleson, of the M.S.C., whose subject was "Undulant Fever." This disease,

which is widely spread among wild and domestic animals, has long been known, but only in comparative recent years been studied to any great extent, and Prof. Huddleson is one of the investigators who have done original work.

Dr. I. W. Greene, delegate from this society, made a very good report of the Kalamazoo meeting.

W. E. WARD, *Secretary-Treasurer*.

TRI-COUNTY SOCIETY

The annual election of Tri-County Medical Society resulted as follows: President, Dr. W. Joe Smith, Cadillac; first vice president, Dr. Hubert Doudna, Lake City; second vice president, Dr. W. A. Crawford, Manton; secretary and treasurer, Dr. J. F. Carrow, Cadillac.

The following committees were appointed: Finance Committee—Dr. S. C. Moore, Cadillac; Legal Committee—Dr. J. F. Carrow, Cadillac; Program Committee—Dr. J. F. Carrow, Cadillac; Dr. W. A. Crawford, Manton, Dr. Hubert Doudna, Lake City, and Dr. Steven Fairbanks, Luther.

The delegate to the state Society, Dr. W. Joe Smith, Cadillac; alternate, Dr. J. F. Gruber, Cadillac.

J. F. CARROW, *Secretary*.

WASHTENAW COUNTY

At the last meeting of the Washtenaw County Medical Society on November 3, 1932, it was decided that, for the ensuing year, meetings would be held under the host plan. The hosts are to be chosen by the Secretary from the returned cards who indicated their willingness to cooperate in giving the plan a trial. The meetings from now on will be held the second Tuesday of the month unless this meets with disapproval. This will be discussed at the next meeting. You will be notified, as usual, as to the time, place and program. We are asking for your cooperation and will they who have not returned their cards please do so. There will be twelve hosts for each meeting and the approximate cost per individual for the year will be between seven and eight dollars, or less.

The speaker for the next meeting will be Dr. Norman F. Miller, whose topic will be Birth Control.

Hosts for the next meeting will be:

Dr. Fred Arner, Dr. H. Barss, Dr. A. R. Barr, Dr. P. Barker, Dr. Jeanette Barnes, Dr. H. Britton, Dr. M. Bell, Dr. Ellen Brown, Dr. Charles Brown, Dr. Fred Collier, Dr. H. H. Cummings, and Dr. D. M. Cowie.

A. C. KERLIKOWSKA, M.D.
Secretary-Treasurer.

WAYNE COUNTY

Dr. Walter B. Cannon, George Higginson, professor of physiology, Harvard University Medical School, Boston, will present the 1933 Beaumont Lectures of the Wayne County Medical Society, January 30 and 31. The subject tentatively selected is "The Relation of the Autonomic System to the Functions of the Alimentary Canal."

All members of the Michigan State Medical Society are cordially invited by the Wayne County Medical Society to visit Detroit and hear these lec-

tures, which will be presented in the Society's auditorium, Maccabees Bldg., Woodward at Putnam, Detroit.

Officers of the Wayne County Medical Society for the 1932-33 year are: Dr. H. Wellington Yates, president; Dr. A. W. Bain, president-elect; Dr. E. C. Baumgarten, secretary; and Dr. Frank A. Kelly, treasurer. These physicians were installed at the Society's General Meeting of October 4, 1932.

The program of the Wayne County Medical Society for the Tuesday evening meetings during December includes:

December 6, Joint Meeting with Harper Hospital of Detroit. Clinical Pathological Conference conducted by Dr. Plinn F. Morse.

December 13, Joint Meeting with the Detroit Bar Association.

All members of the Michigan State Medical Society are always cordially welcomed at these interesting meetings. You will be made to feel at home on the occasion of your visit to the auditorium or to the club rooms (4421 Woodward at Canfield, Detroit) of the Wayne County Medical Society.

The thirty-three committees and boards of the Wayne County Medical Society got under way to an early start. The majority of these groups, which handle the multitudinous detail of the Society, held their organization meetings in July and a number have met weekly and bi-weekly since that time. All committee meetings are held in the club rooms of the Wayne County Medical Society, over the luncheon table. The restaurant of the Society does a rushing business between the hours of 11:30 A. M. and 2:30 P. M. every week day.

Two radio talks are presented each week by the Wayne County Medical Society, one over Station WWJ on Tuesdays, 5:45 to 6:00 P. M., and the other over Station WEXL on Tuesdays at 10:30 to 10:45 A. M.

The recently organized Speakers' Bureau of the Wayne County Medical Society offers to furnish other county medical societies with excellent talent for their programs. If you desire a speaker, write or call the Speakers' Bureau at 4421 Woodward Ave., Detroit, Columbia 1638. A month's notice will be appreciated, in order to give the selected physician or surgeon plenty of time to prepare a good paper.

The Noon Day Study Club, composed of members of the Wayne County Medical Society who are under the age of forty, is back to its old schedule of Tuesday and Friday luncheon meetings. The members present and discuss the latest advances in medicine to their confrères. The Medical Section meets on Tuesday, and the Surgical Section meeting is on Friday.

Many Detroit physicians have associated themselves with and have become very active in the good work of the National Economy League, which is a voluntary nonpartisan organization formed to direct public opinion toward government economy. Its first specific objective is the elimination of the legalized abuse whereby at least four hundred and fifty million dollars per annum is now being expended by the National Government for benefits to veterans who suffered no disability in or through war service. The medical profession in general should become very interested and active in the work of the National Economy League.

The Woman's Auxiliary presented a mahogany Steinway grand piano to the Wayne County Medical Society on November 8, 1932. The beautiful instrument has been placed in the lounge of the club rooms.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. F. A. MERCER, President, Pontiac, Mich.
MRS. E. L. WHITNEY, Vice President, Detroit, Mich.
MRS. HERBERT HEITSCH, Secretary, Pontiac, Mich.

William J. Burns, Executive Secretary of the Wayne County Medical Society, gave a most inspiring talk to the Women's Auxiliary of the Oakland County Medical Society at their October meeting. Luncheon was served in the City Hospital with an attendance of thirty-five members. The Auxiliary has planned to organize a large auxiliary group to work for the needs of the City Hospital.

It is with regret that we note the passing of Mrs. Walter Jackson Freeman, president of the Woman's Auxiliary to the American Medical Association. Mrs. Freeman died in Philadelphia, October 27, 1932, following an illness of three weeks.

The daughter of a physician, the wife of a physician, the mother of two physicians, the life and interests of Mrs. Freeman were peculiarly closely allied to the medical profession. Her father was the late Dr. William W. Keen of Philadelphia.

(MRS. R. H.) HELEN C. BAKER.

The Woman's Auxiliary to the Wayne County Medical Society held their initial fall meeting on September 20, 1932. The following officers were installed for the year 1932-1933: President, Mrs. Claire Straith; first vice president, Mrs. Frank W. Hartman; second vice president, Mrs. James H. Dempster; recording secretary, Mrs. A. O. Brown; corresponding secretary, Mrs. Leo Orecklin; treasurer, Mrs. S. P. L'Esperance; custodian, Mrs. Warren L. Hulse; financial secretary, Mrs. Wm. Rieman.

Mrs. Straith has appointed the following chairmen to assist her: Program, Mrs. Frank W. Hartman; Social, Mrs. Edward G. Minor; Ways and Means, Mrs. Perry Burnstine; Revision, Mrs. James H. Dempster; Hygeia, Mrs. H. R. Leibinger; Public Relations, Mrs. R. E. Loucks; Legislative, Mrs. Chas. J. Barone; Membership, Mrs. Basil Connelly; Publicity, Mrs. Leslie T. Henderson; Welfare, Mrs. Chester Paul; Courtesy, Mrs. Alex Cruikshank.

The meeting was well attended and the program interesting. Dr. H. Wellington Yates, president of the Wayne County Medical Society, gave an address on "How an Auxiliary Can Be of Assistance to the Medical Society." Mrs. Elsie Wulkop of Boston, Massachusetts, talked on "Sociological Aspects of Birth Control." Miss Wulkop was a social service worker in the Massachusetts General Hospital for ten years. Mrs. Emory Parnell gave dramatic readings. Tea and social hour followed.

The October meeting, held in the club rooms of the Society on the eleventh, was devoted to a public health program and was conducted under the auspices of the Public Relations Committee, Mrs. R. E. Loucks, chairman; the Program Committee, Mrs. Frank W. Hartman, chairman, and the Hygeia Committee, Mrs. H. R. Liebinger, Chairman. Invitations were sent to all club presidents in Detroit. Parent-teacher and church groups were also invited to attend. The entire program was arranged to interest the laity. About 150 attended.

Dr. William Herbert Emerson, director of the Pasteur Institute of the University of Michigan, talked on "Some Aspects of Public Health." Dr. H. Wellington Yates gave an enlightening talk on "Hygeia." Mrs. J. Milton Robb discussed "The Activities of the Visiting Nurses Association," illustrated with moving pictures.

The exhibits were from the Board of Health edu-

cational department with Miss Connelly in charge, Hygeia, and American Medical Association.

Elizabeth Hamilton Duggan, soprano, gave a number of selections, in costume, accompanied by Mrs. Morris D. Silver.

Tea and a social hour followed, with Mrs. Edward G. Minor, social chairman, and her committee as hostesses.

MRS. LESLIE T. HENDERSON,
Publicity Chairman.

JOURNAL ADVERTISERS

It cannot be stated too often that continuance of your JOURNAL is dependent upon advertising income. If results are not obtained advertisements are discontinued. Every member is requested and urged to give preference patronage to our advertisers. Read the advertising section of each issue. Write to these advertisers for samples or literature. Welcome the salesmen of firms who advertise in your JOURNAL and favor them with your business. You can do much to increase advertising revenue.

LEGAL DEFENSE

Legal defense is a valuable feature of membership. One suit or threat of suit may cost you anywhere from \$200.00 to \$1,000.00 in attorney fees—an amount equal to your county and state dues for twenty years or even a lifetime. Recently a member lapsed in his dues. Suit against him was started. His attorney fees were \$475.00—sufficient to pay his dues for twenty years. Against another doctor, who had been a member for but six years and whose total dues paid were \$90.00, a suit was started and \$1,180.00 was paid from the defense fund to attorneys who appeared in his behalf. Granted that he lives and practices forty years, he will still have saved \$500.00 and all the while protected as well as participating in the other membership benefits. Society membership is a valuable asset.

When threatened or sued, immediately notify your local society medico-legal representative and Dr. W. J. Stapleton, Chairman, Medico-Legal Committee, David Whitney Building, Detroit. Do not engage an attorney. Do not discuss the case. Remain silent till you receive instructions from Dr. Stapleton. If you are in good membership standing your legal interests will be protected.

AN ECONOMIC INDEX

An old farmer was asked when he thought hard times would be over.

"Well," he said, "I've lived through a good many such days as these and I've noticed that they most always just about last out three pairs of pants. I'm on my third now and the seat is so thin, if I sit on a penny I can tell whether it's heads or tails, so I think we're pretty near out of the woods."

Maybe that's as good an economic index as any. When enough trousers are worn through more will be bought and business will be helped. Part of the troubles may be due to the fact that in '27, '28, and '29 too many men bought too many trousers they didn't have to wear out. In '30 and '31 and so far in '32 they've been wearing 'em out. And may we add that when we all resume sane buying all along the line, medical bills will again be paid.

YOUR COUNTY SOCIETY

Your County Society is what you as a member make it. Many profitable opportunities confront you if you will determine to embrace them. Attend every meeting. Participate in every discussion. Work on Committees. Become a Booster. You will have a wonderful Society if you do.

THE DOCTORS' LIBRARY

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 12, No. 5. (Chicago Number—October, 1932.) Octavo of 268 pages with 61 illustrations. Per clinic year, February, 1932, to December, 1932: Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

A NEW DEAL. By Stuart Chase, 254 pages. The Macmillan Company, New York, 1932.

The author is a well known economist who has to his credit several trenchant books, *The Tragedy of Waste*, *Men and Machines* and *The Nemesis of American Business*. *The New Deal* is a very timely book, presenting as it does an analysis of various factors that are responsible for the present economic debacle. The problem of production has long been solved. As every one is painfully aware, the great problem of today is that of distribution, the getting of necessary goods to the would-be consumer. After a detailed analysis of the economic system of production the author pays his respects to the nineteenth century doctrine of *laissez faire*. He pleads for government interference, or, as he expresses it, control from the top. *The New Deal* is a thought-provoking book that should be read by every one. Our readers will profit by the well marshaled argument in favor of scientifically controlled industry and centralized management of the economic system.

CYTOLOGY AND CELLULAR PATHOLOGY OF THE NERVOUS SYSTEM. Edited by Wilder Penfield, Professor of Neurology and Neurosurgery, McGill University, Montreal. Contributors: Erik Agduhr, Leslie Arey, Percival Bailey, Max Bielschowsky, J. Boeke, William Boyd, Paul Bucy, F. de Castro, Stanley Cobb, William Cone, Edmund Cowdry, Pio del Rio-Hortega, Arthur Elvidge, Jonas Friedenwald, Joseph Globus, Godwin Greenfield, Roy Grinker, Ariens Kappers, James Kernohan, John MacMillan, Pierre Masson, Jean Nageotte, Wilder Penfield, Philipp Stöhr, F. H. Verhoeff, Lewis Weed. 886 illustrations, 15 in color. 3 volumes, 1,267 pages. Paul B. Hoeber, Inc., New York, 1932. \$30.00.

In these volumes we have a remarkable compendium of information on the microscopic structure of the nervous system. This work, as the most complete and up-to-date of its kind in the English language, will compel the attention of those interested in the nervous system whether they be neurologists, neurosurgeons, anatomists or pathologists. The scope, dealing with both the normal and the pathological phases of the tissues of the peripheral, sympathetic and central nervous systems and of the meninges, pineal gland, hypophysis and retina, is as extensive as neurological practise. The list of contributors is essentially a catalogue of most of the best known students of nerve tissue in the world. In addition to well known American and Canadian writers the contributors consist of such men as Ariens Kappers of the Brain Institute of Amsterdam, Boeke of Utrecht, the Germans, Philip Stöhr and Max Bielschowsky, and del Rio-Hortega and de Castro, students of Cajal.

It must be understood that this work is not merely another work in neurology. It is not concerned with the tracing of nerve pathways nor with clinical manifestations of disease. It deals directly with those things which are basic to neurology—the normal structure of the various cells and tissues of the nervous system and its alteration in disease. Experimental studies are frequently quoted and the functionally minded attitude of the authors is everywhere apparent.

The chapters of the first two volumes deal pri-

marily with the general character of the neurone, with the physiological conditions of nerve development, with the spinal and sympathetic ganglia, with nerve sheaths, with sensory and motor endings, with nerve degeneration and regeneration, with neuroglia, choroid plexuses, meninges, cerebrospinal blood vessels, the retina and optic nerve, pineal gland and hypophysis. In each section, the normal and the pathological conditions are treated. The last volume, deals with malformations, neoplasms and inflammatory reactions of the nervous system.

"Cytology and cellular pathology of the nervous system" can be recommended unhesitatingly to those interested in the nervous system. It will be a sourcebook to the student and a guide to the specialist. The text is well edited and is readable. The illustrations are clear, consistently good, and beautifully executed. A complete index and sectional bibliographies containing about 2,500 references increase the value of the work to the general reader and the specialist respectively. The format and the imitation leather binding are the same as in the "Special cytology" by the same publisher.

NURSES ON HORSEBACK. By Ernest Poole. Octavo of 168 pages, illustrated. New York, The Macmillan Company, 1932. Cloth, \$1.50.

This is a story of the work of the Frontier Nurses among the mountaineers of Kentucky, told in a very vivid and interesting style. The author has gathered the material for his story from personal observations while making rounds with the nurses on their daily and nightly visits on the sick.

He tells of the prejudices and superstitions of these people, built up through generations, and of the difficulties encountered by the Nurses in bringing medical and nursing help to them. Only the splendid spirit of these women during the six years of its existence has made this service possible.

The book should be of interest to anyone working for the betterment of humanity and especially to workers in the fields of health and social welfare.

STENOGRAPHIC REPORTS OF THE CLINICS OF JOHN F. ERDMANN, M.D., F.A.C.S., Professor of Surgery in Columbia University; Executive Officer in the Department of Surgery, New York Post-graduate Medical School; Director of the Department of Surgery, New York Post-graduate Hospital. Edited by J. William Hinton, M.D., F.A.C.S., Associate Professor of Surgery, New York Post-graduate Medical School (Columbia University); Associate Visiting Surgeon to Bellevue Hospital, New York City. 315 pages with 39 illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, \$4.50 net.

This monograph consists of stenographic reports of Dr. Erdmann's lectures to students. It is based upon a surgical experience extending over forty years. Among the subjects treated are the pre-operative and post-operative care of patients. The subject of Appendicitis is fully discussed, also Gall-bladder Disease and Digestive Disorders and Abdominal Pain and Acute Pancreatitis. Considerable attention is given to malignancy as it involves different portions of the alimentary tract. Surgery as it pertains to the Genito-Urinary Tract is also interestingly discussed. There are a number of other subjects which go to make the book interesting and profitable to the surgeon, who would be well repaid in spending an evening or two perusing it.

MEDICAL PAPERS OF THE NOON-TIDE CLUB. Wayne County Medical Society. Volume II, 1931-1932.

The Wayne County Medical Society Noon-Day Study Club is an organization of the younger members of the Society for the study of scientific phases of medicine. The scope of the work is very broad, including as it does the whole domain of medicine and surgery and the specialties. Probably there is no activity in the history of the Society that has

meant more towards the intellectual advancement of the profession. Volume II contains forty-six papers very legibly mimeographed, two columns to the page. The work represents a vast amount of observation and study on the part of the forty-six authors. It would be difficult to select any of the articles for special review inasmuch as the papers selected would probably be those dealing with some phase of the reviewer's own work. We will conclude, then, by saying that they are all of a high order and that the editing has been thoroughly done. We understand there are a few extra copies for sale which may be procured through the publication committee, which consists of Drs. Mark McQuiggan, Martin Hoffman, Jack Agins, Catherine Corbeille and Royce Shafter of the Wayne County Medical Society, and here's hoping that the depression will not interfere with a publication of a third volume of this work.

THE COLON, RECTUM AND ANUS. By Fred W. Rankin, B.A., M.A., M.D., F.A.C.S., Division of Surgery, The Mayo Clinic; Associate Professor of Surgery, The Mayo Foundation; J. Arnold Bargen, B.S., M.D., M.S. in Medicine, F.A.C.P., Division of Medicine, The Mayo Clinic; Assistant Professor of Medicine, The Mayo Foundation; and Louis A. Bue, B.A., M.D., F.A.C.S., Section on Proctology, The Mayo Clinic; Associate Professor of Proctology, The Mayo Foundation. 846 pages with 435 illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, \$9.50 net.

This work will be welcomed by men of the profession, both surgeons and internists. Rankin's work is well known as well as the contributions of his associate authors. There has been much progress in knowledge of lesions of the colon both as to increasing efficiency in diagnosis as well as treatment. According to Dr. Rankin, "roentgenoscopic examination of the large bowel whereby visualization is assisted by palpatory manipulation now permits accurate localization and recognition of the pathologic type of more than 95 per cent of the lesions of the large bowel." The order of the work includes anatomy and physiology, followed by a chapter on embryology which, however, is not necessarily the stereotyped anatomy and physiology of the textbooks. The chapter on anatomy and physiology, according to the author, is largely derived from original work done in the Mayo Clinic by Dr. J. A. Steward, who has made special studies of the vascular supply of the large bowel, rectum and anus. The thirty-eight chapters which comprise this volume include almost every condition that is likely to affect the parts of the anatomy under consideration. Particularly commendable features are the illustrations, which are numerous and purposive. They consist of line drawings, photographs, radiographs, with a frontispiece of the colon and its mesocolon showing the blood supply, all in colors. Each chapter is furnished with a bibliography which indicates the scope of the literature reviewed on the subject. This is one of the most complete and comprehensive works that has appeared on this subject in recent years.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE THYROID GLAND. By George Crile and Associates. 508 pages with 164 illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, \$6.50 net.

The senior author of this work states that it is not a formal treatise on the thyroid gland but rather an account of the experiences of the staff of the Cleveland Clinic in the treatment of diseases of the thyroid gland. It is meant particularly as an interpretation of clinical experiences in the diagnosis and treatment of simple goiter, of hyperthyroidism and of malignant tumors of the gland. The volume contains a review of the literature regarding the rôle of iodine. The book is of composite authorship; fourteen of the thirty-nine chapters, however, are

by the senior author. Though not intended as a complete work on the thyroid gland, it goes without saying the 500 pages which comprise the work are full of interesting information on the subject, as everyone would expect from a work issued by the Cleveland Clinic. The illustrations are such as actually do illustrate. This cannot be said of many medical works in which borrowed illustrations are found. The pictures in this work of Dr. Crile and his associates all show evidence of originality and purpose. We have on the whole a very readable volume.

OF GENERAL MEDICAL AND SURGICAL INTEREST

X-RAYS, ELECTRONS AND LIFE (New York Times)

When Dr. H. J. Muller in the course of his classic experiments turned the X-rays on the fruit-fly and obtained monstrosities that startled experimental evolutionists, and when still more recently X-rayed grapefruits were exhibited in Schenectady, N. Y., which had flowered in five weeks instead of the usual five years, we beheld what was in effect a transmutation of life comparable with the transmutation of the elements. Life itself had been made to yield.

The roots of life are the genes—infinitesimal units of highly complex compounds. Although they are alive, they are nevertheless aggregations of atoms. When atoms are struck by X-rays—bullets of light, according to the new view—electrons are expelled from the nuclei. The atoms are changed and so is the element that they compose. We saw not so many weeks ago that when the gamma rays of radium, which are much like X-rays, strike the nucleus of a beryllium atom, helium is knocked out. Matter was transmuted in the truest sense. Have we not what a biologist would call a mutant? And is it not clear that X-rays must affect the atoms of genes by disturbing their electrons in some way not yet determined?

Here we have the starting point of a purely physical and chemical theory of the action of energy on the living cell with which biologists are already concerned. Atomic physics and experimental evolution seem to join hands. The problem of modifying the gene is therefore much like that of transmuting the atom by the application of force.

SACRAL BLOCK ANESTHESIA IN PERINEAL PROSTATECTOMY: ITS INFALLIBILITY WHEN ACCURATELY ADMINISTERED

Edwin Davis, Omaha, states that the more or less general impression that sacral block anesthesia (in prostatectomy) is not wholly reliable and dependable, and that there is a certain small but inevitable percentage of failure, is erroneous. This mistaken idea may be explained in part by a confusion between the simple caudal injection and the complete sacral block, and, in part, by inaccuracy in technic, without recourse to theories with respect to anatomic and physiologic variation. Sacral block anesthesia, accurately administered and with the needles unquestionably in the foramina, is uniformly and invariably dependable for perineal prostatectomy. This statement is based on the fact that it has been possible to run an as yet uninterrupted series of 229 consecutive cases of perineal prostatectomy, without the necessity for additional anesthesia in a single

instance, and without drug narcosis other than one-fourth grain of morphine. The sacral block method is applicable in all cases of prostatectomy. It has not been necessary to exclude a single case on account of fear or nervousness or mental excitability on the part of the patient. Sacral block anesthesia carries with it no hazard which is inherent in the anesthesia itself, provided the most elementary form of caution (aspiration before injection) be employed, in avoiding puncture of the dural sac or blood vessels. The average time necessary for injecting the caudal canal and the three sacral foramina on each side (seven in all) is twelve and a half minutes. The method of anesthesia which may be made invariably dependable, which has no inherent anesthesia hazard and no complications or sequelæ, which is simple in its technical application and is not time consuming should be the method of choice. In the author's experience, sacral block anesthesia has been a material factor in maintaining a mortality rate as low as 2.38 per cent (nine deaths) in a consecutive series including 378 cases of perineal prostatectomy. He therefore considers this form of anesthesia as the ideal method for perineal prostatectomy.—*Journal A. M. A.*

THE GREAT COURSE OF MEDICAL ENDEAVOR: PRESIDENT'S ADDRESS

In the President's address before the American Medical Association at the Eighty-Third Annual Session, New Orleans, May 10, 1932, E. H. Cary, Dallas, Texas, said in part: "Contributing perhaps more than any other factor to the furtherance of this scientific cultivation of medicine is the great channel that the American Medical Association affords the different branches of medical knowledge, which collaborate therein, obtaining thereby the best opportunity for the highest development of our art. This great organization, imbued with this larger conception, centered its attention on education and on what could be accomplished through concerted educational zeal, as one of its chief claims for coöperative effort. So it came to pass that the great motif, from 1847 until now, has been the advancement of the science of medicine through educational achievements, so that both the theory and practice of medicine could be harmonized, through an ever growing art and science, for the good of humanity. When we speak of the achievements of the American Medical Association, we start with the educational program outlined by our forefathers, recognizing their wisdom and foresight and the fruits of their planting as they were ripened in the most orderly fashion by the astute leaders who have directed and guided the affairs of this great power and body. Strangely true, most of this monumental work can be seen by these men who have survived and are here to see and enjoy the accomplishments of their planning. One of these men approaches the honorable age of the octogenarian, another has already achieved this remarkable goal—both are still contributing their unstinted interest and inspiration to the American Medical Association. While personal allusion is unnecessary, any student of our history will recognize these outstanding characters. No child of this parent body should ever grow so lusty, ambitious or proud as to disturb the confidence in, or function of, this great organization in building reliance in the policies of the profession as a whole. Voluminous data have been furnished me by the heads of the different departments which comprise the American Medical Association, making complete its service. I regret that time prevents me from presenting more of this information. No one man could comprehend the vast endeavors carried on

by our organization without devoting time to a daily survey of the work being accomplished. I commend this ever increasing program of service to your attention, hoping that more of our members will visit headquarters and become acquainted with its high purposes and extensive and effective routine. It bridges the chasm between professional accomplishments and public needs."—*Journal A. M. A.*

SPINAL ANESTHESIA

F. G. LINDEMULDER, Ann Arbor, Mich., describes the clinical changes that occur during and following spinal anesthesia and some of the sequelæ and complications. He also reports two cases in which death occurred several days following the anesthesia. It appeared that the anesthesia was a contributing cause for the deaths. The permanent effects of the drug were seen at necropsy. In one case, the spinal cord was noted to be normal in the cervical region, and in the lower dorsal and lumbar regions definite pathologic changes were noted. It has been said by several observers that there is no irritation in the nervous system following the injection of procaine or its allied drugs and they compare this finding with irritation produced by the inhalation method on the mucous membranes of the bronchi and lungs. However, the author feels that there is a definite toxic effect on the spinal cord and the spinal nerve roots, which shows its effect both clinically and pathologically, the patient usually complaining of pain, and this finding can be explained by the pathologic study of the nerve roots.—*Journal A. M. A.*

VITAMIN D

RUTH COWAN CLOUSE, Chicago, prefaces her review of the literature on Vitamin D with a brief discussion of its discovery. She calls attention to the fact that the discovery of this fourth vitamin has been of the greatest importance to the medical profession as well as to mankind, because it has brought about the solution of the century-old problem of the cause and prevention of rickets. Today, because of this discovery, severe rickets, in civilized countries at least, is coming to be a rare disease. The opinion has even been expressed that within the next decade, or even sooner, the disease in all its forms may be almost completely eradicated; that it will become as rare as has infantile scurvy since the widespread use of orange juice. To the English physiologist Mellanby belongs the credit of the discovery of the specific antirachitic factor or vitamin. His reports, published in 1918 and 1919, contain the first accounts of the undoubted production of true rickets in an experimental animal—in this case the dog—and of its cure by dietary means. On diets consisting chiefly of cereal and small quantities of whole or skim milk, diets which are now recognized as deficient in Vitamin D and also in calcium, there developed in Mellanby's puppies soft bones, bowed legs and other typical deformities seen in rachitic children. More definite proof of the presence of true rickets was obtained from roentgenograms and from chemical analysis of the dogs' bones, which were found to have a decidedly low calcium content. When a few cubic centimeters of cod liver oil was added to the diet, rickets failed to appear. Comparatively large amounts of butter fat and suet prevented it to some degree, but lard, cottonseed, olive and linseed oils proved entirely ineffective. Here was proof positive that the cause of rickets was to be found in a definite deficiency in the diet and that the cure lay in the addition of certain specific foods to the ration.—*Journal A. M. A.*

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